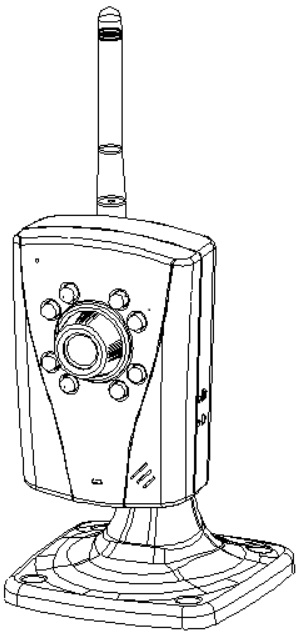
American Dynamics

From Tyco Security Products

Illustra Flex Series 1MP Wireless Cube

User Manual



8200-1027-01 B0

Notice

Please read this manual thoroughly and save it for future use before attempting to connect or operate this unit.

The information in this manual was current when published. The manufacturer reserves the right to revise and improve its products. All specifications are therefore subject to change without notice.

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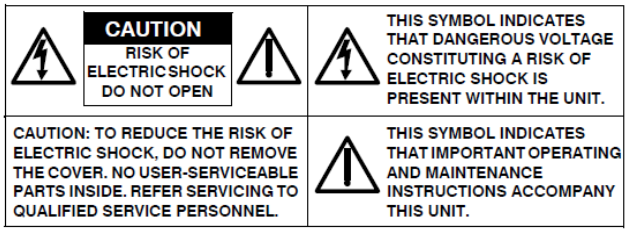
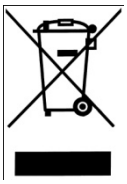
Table of Content

WARNING 4
Preface 5
1. Product Overview 6
1.1 Physical Characteristics 6
2. Installation and Connection 8
2.1 Unpack Everything 8
2.2 Installation 8
2.2.1 Checking Appearance 8
2.2.2 Connecting the wires 8
2.2.3 Mounting 9
2.2.4 Network Topology 11
2.3 Connection 12
2.3.1 System Requirements 12
2.3.2 Connecting from a computer 13
2.3.3 Default IP address 14
2.3.4 Internet options setting from PC 14
2.3.5 Using the illustra Connect Tool to Manage Cameras 15
2.3.6 Verify connection between PC and IP Camera 15
2.3.7 Viewing Preparation 16
2.3.8 Login Window 19
3. Administration and Configuration 20
3.1 Live View 20
3.2 Configuration 22
3.2.1 Image Parameters 22
3.2.2 Event Settings 34
3.2.3 Network Settings 37
3.2.4 WIFI Settings 40
3.2.5 Account 44
3.2.6 System 46
3.2.7 Event Log 49
3.2.8 Client 49
3.2.9 Information 50

WARNING

- This unit operates at DC 5V.
- Installation and service should be performed only by qualified and experienced technicians and comply with all local codes and rules to maintain your warranty.
- To reduce the risk of fire or electric shock, do not expose the product to rain or moisture.
- Wipe the camera with a dry soft cloth. For tough stains, slightly apply with diluted neutral detergent and wipe with a dry soft cloth.
- Do not apply benzene or thinner to the camera, which may cause the surface of the unit to be melted or lens to be fogged.
- Avoid aligning the lens to very bright objects (example, light fixtures) for long periods of time.
- Avoid operating or storing the unit in the following locations:
  - ✓ Extremely humid, dusty, or hot/cold environments (recommended operating temperature: -10°C to +40°C)
  - ✓ Close to sources of powerful radio or TV transmitters
  - ✓ Close to fluorescent lamps or objects with reflections
  - ✓ Under unstable or flickering light sources


CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN
THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.



WEEE (Waste Electrical and Electronic Equipment). Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

Preface

This user manual is designed as a reference for the installation and manipulations of the unit including the camera's features, functions, and detailed explanation of the menu tree. The reader is supposed to be able to get following information in the manual.

Product Overview: the main functions and system requirements of the unit.

Installation and Connection: instructions on unit installation and wire connections.

Administration and Configuration: the main menu navigation and controls explanations.

1. Product Overview

1.1 Physical Characteristics

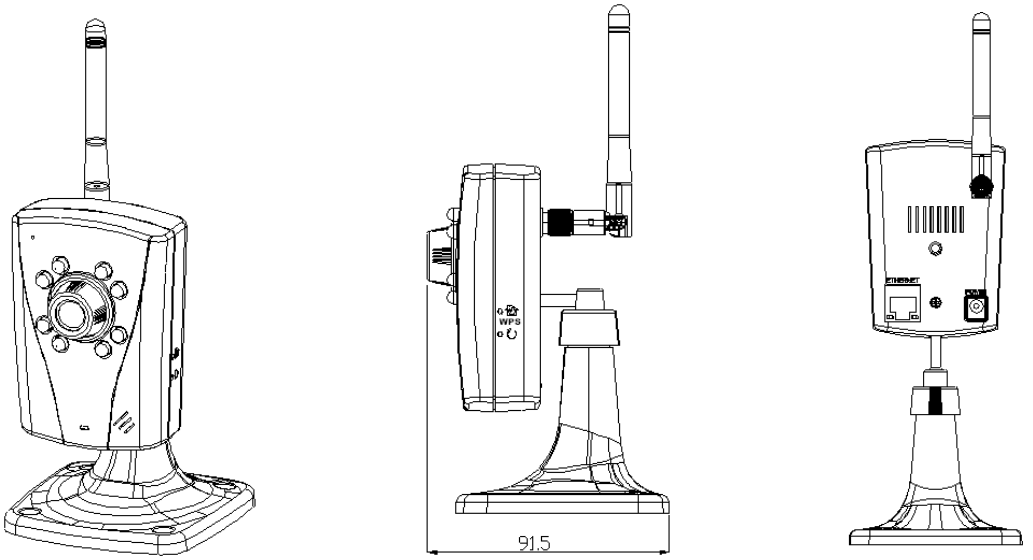


FIGURE 1-1: PHYSICAL DIMENSION A

Unit: mm

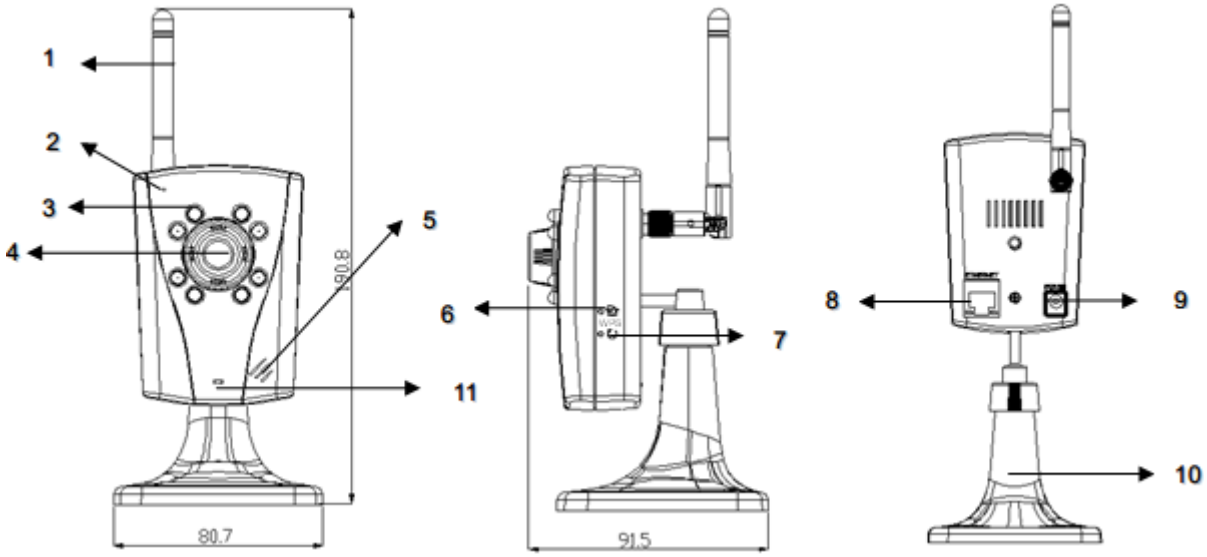


FIGURE 1-2: PHYSICAL DIMENSION B & PICTORIAL INDEX*

Unit: mm

** Refer to table 1-1 for definitions*

TABLE 1-1: PICTORIAL INDEX DEFINITION

Index #	Name	Description	
1	WIFI antenna	Sending/receiving radio signals from computers or other WIFI facilities for wireless communication	
2	MIC	Audio IN	
3	Infrared LED*	Illumination for night vision	
4	Lens	Fixed lens	
5	Speaker	Audio OUT (Optional)	
6	Default Button	● Resetting the unit to factory default (press and hold for 5 seconds) ● This button also has WPS function. Please press this button around 2 sec then WPS will be connecting.	
7	Reset Button	Rebooting the system.	
8	RJ-45 Ethernet Connector	Wired network connection socket	
9	Power Terminal	Inlet for the power adaptor (DC 5V±10%, 1.5A)	
10	Unit stand	The unit's body support	
11	LED Indicator	Red Light On	Wired Network Ready With Networking
		Red Light Blinks	Wired Network Ready Without Networking
		Blue Light On	● Wireless Network Ready With Networking and AP connection ● When ad hoc of WIFI mode is enabled and networking, the blue light will turn on. ● WPS ready and connection
		Blue Light Blinks	Wireless Network Ready Without Networking and AP connection
		Blue Light Blinks Rapid	WPS ready without networking

** D/N mode setting is auto. Cube network camera with IR ON will automatically switch to B/W mode when the illumination is under a certain threshold.*

Note

- Once wired networking is unavailable, please press and hold the default Button for 5 seconds to restore the unit to factory default settings so you may reach the unit at its default IP address for good. Please use Illustra Connect to find the IP address again.
- If you want to use wireless network, you can press and hold Default (WPS) button a few seconds to connect the network. The LED status will turn blue after WPS successful connection. Otherwise, the blue light will always blink rapid. When WPS can't success connection, please repeat the operation.

2. Installation and Connection

2.1 Unpack Everything

Check everything in the packing box matches to the order form and the packing slip. In addition to this manual, items below are included in the packing box.

- One unit of Megapixel Wireless Cube Day/Night Network camera
- One set of WIFI antenna & unit stand
- Four TP4×15mm tapping screws
- Four screw anchors
- One CD containing Illustra Connect, user manual and quick installation guide
- One mounting template
- One power adaptor ADCi600F-W012
- One printed quick installation guide

Please contact your dealer if any item missing.

2.2 Installation

Following tools might help you complete the installation:

- a drill
- screwdrivers
- wire cutters

2.2.1 Checking Appearance

When first unboxing, please check whether if there is any visible damage to appearance of the unit and its accessories. The protective materials used for the packaging should be able to protect the unit from most of accidents during transportation.

Please remove the protective part of the unit when every item is checked in accordance with the list in 2.1 Unpacking Everything.

2.2.2 Connecting the wires

- Connect the **DC 5V** power adaptor to camera.
- Connect the network cable to the RJ-45 terminal of a switch.

2.2.3 Mounting

The WIFI antenna and the unit stand are the necessity to mount a complete unit.

1. WIFI antenna
2. Camera's body
3. Unit stand

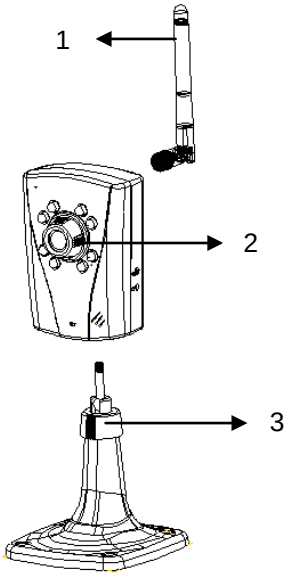


FIGURE 2-1: ACCESSORY ASSEMBLY EXPLODED VIEW

This unit has two ways to mount. You can attach the stand to one of holes at either end, one is at the back of the unit; the other, bottom, of the unit as the following figures.

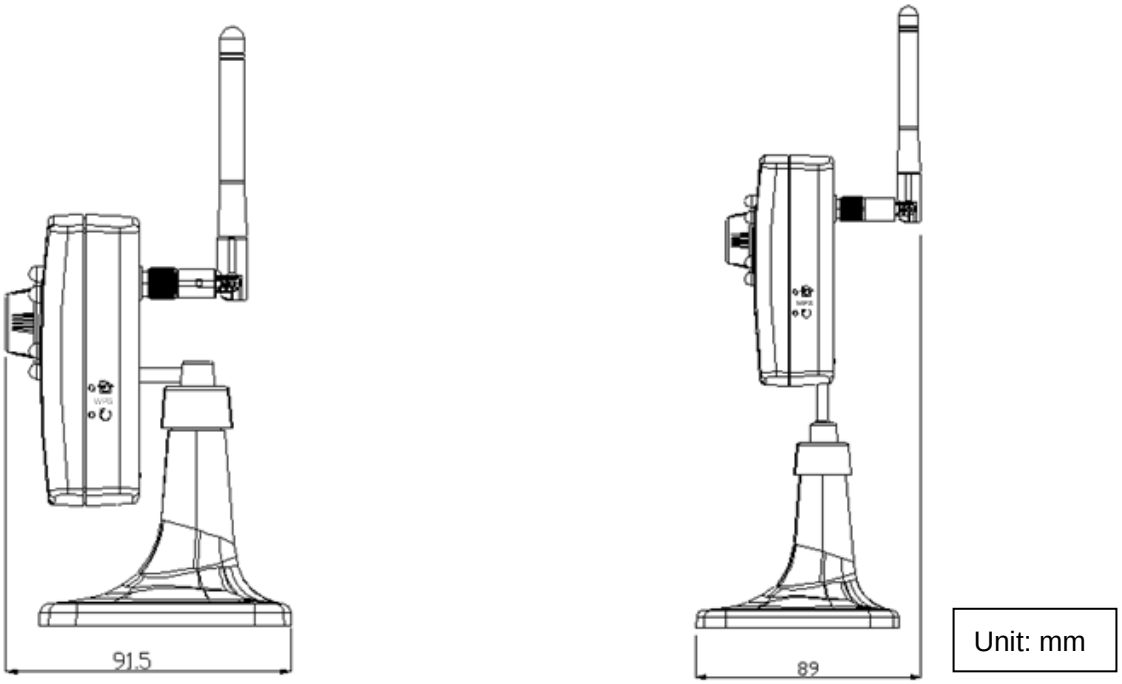


FIGURE 2-2: ACCESSORY ASSEMBLY SIDE VIEW

After the unit assembled, mount the unit to the ceiling or wall by steps below.

1. Attach the mounting template to the ceiling or wall.
2. Drill four holes, and then insert the screw anchors into the holes.
3. Secure the bottom case of the unit to the ceiling or wall with the TP4×15 mm tapping screws.

Note	Depending on the material of your mounting surface, you may require different screws and anchors than those supplied.

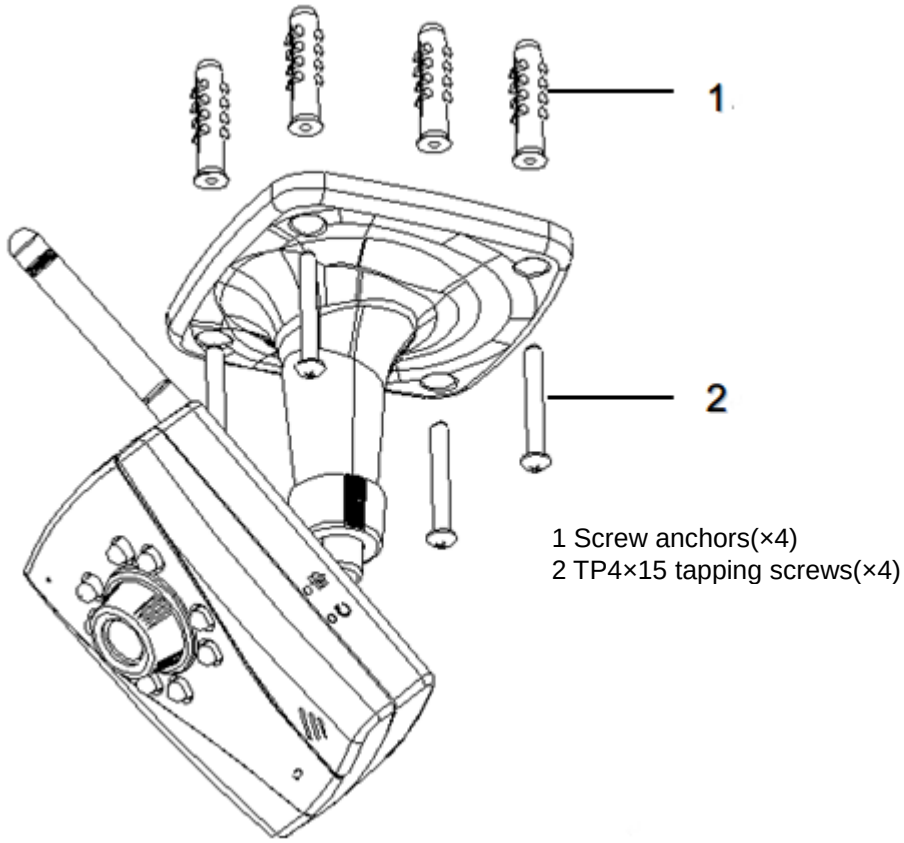


FIGURE 2-3: MOUNTING DIAGRAM

2.2.4 Network Topology

The camera can deliver video images and audio in real time using the Internet and Intranet. It's equipped with Ethernet RJ-45 network interface.

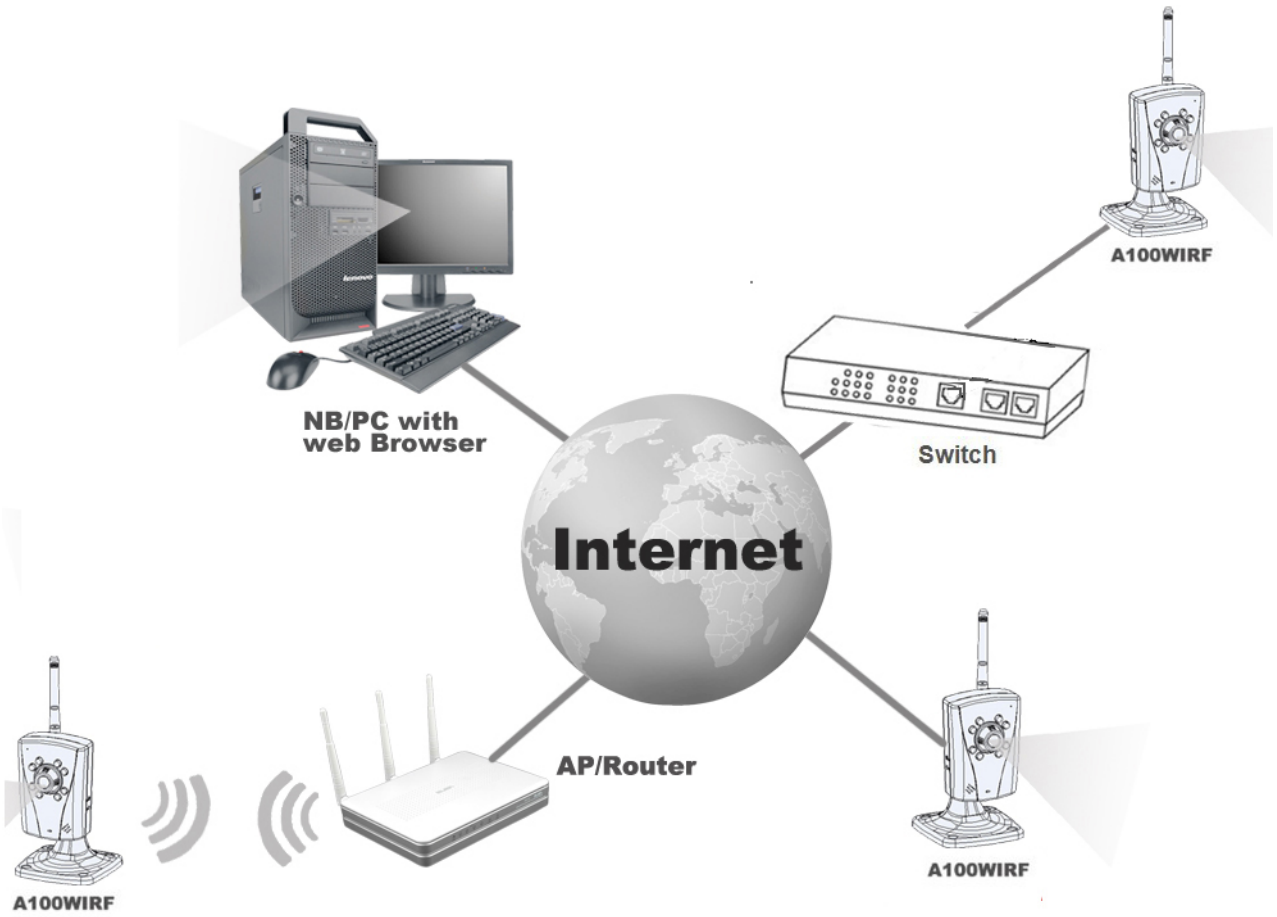


FIGURE 2-4: NETWORK TOPOLOGY

Figure 2-4 illustrates how the Illustra Flex 1MP Wireless Cube unit routes packet through the internetworking. With proper settings, users are able to manipulate the 1MP Wireless Cube unit from both inside and outside of the administrative domain.

2.3 Connection

2.3.1 System Requirements

Below table lists the minimum requirement to implement and operate 1MP Wireless Cube unit. No hardware/software component underestimated is recommended.

TABLE 2-1: SYSTEM REQUIREMENTS

System Hardware	
CPU	Intel Pentium 4 2.4GHz or equivalent
RAM	1 GB
Display	NVIDIA GeForce 6 Series or ATI Mobility Radeon 9500 (DirectX 9 compatible)
System Software	
Operating System	Microsoft Windows XP, Windows Vista, or Windows 7
Browser	Microsoft Internet Explorer 8 or above
Unit	
Power Supply	DC 5V
Networking	
Wired	10/100BASE-T Ethernet (RJ-45 connector)
Wireless*	Wi-Fi wireless networking (based on IEEE 802.11n specification); IEEE 802.11 b/g/n compatible

**Effective wireless connection speed varies from environments and distances between access points.*

Note	All the installation and operations should comply with your local electricity safety rules.

2.3.2 Connecting from a computer

There are two kinds of connection methods for your selection. One is wired connection and the other one is wireless connection.

Way 1: Wired connection

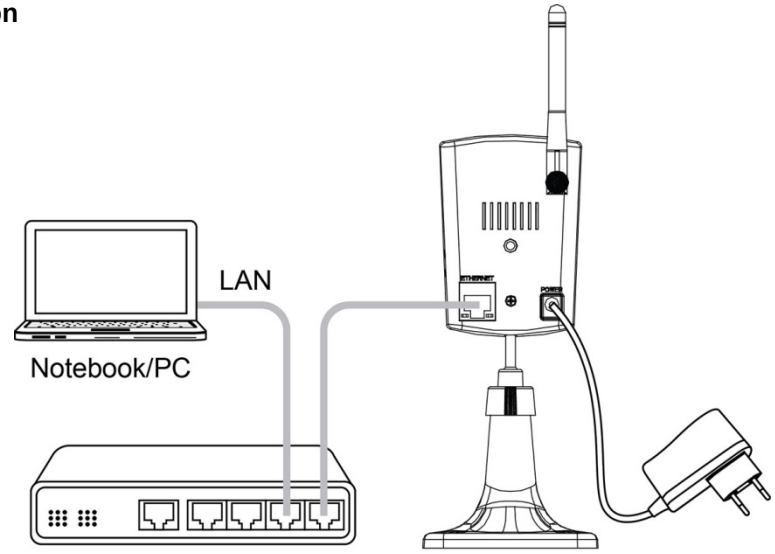


FIGURE 2-5: WIRED CONNECTING FROM A COMPUTER

Note	The status LED of camera will turn red when obtaining an IP address and the network connection is processing.

Way 2: Wireless connection

- Press and hold the WPS button on your Camera for 2 seconds. The LED should blink blue light rapid.
- Within one minute, press the WPS button on your router.

Note	The status LED of camera will turn blue when obtaining an IP address and the network connection is processing.

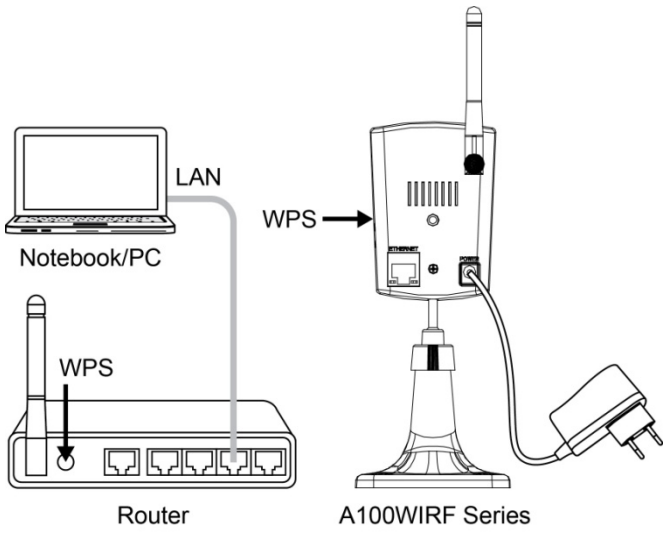


FIGURE 2-6: WIRELESS CONNECTING FROM A COMPUTER

2.3.3 Default IP address

Since this is a network-based unit, the unit's default IP address was assigned by Router in DHCP server mode. Please enabled a DHCP server in your network, the unit would obtain an IP address automatically from the DHCP server so that you don't need to change the camera's IP address.

2.3.4 Internet options setting from PC

- Please open network connection status and then click Properties.

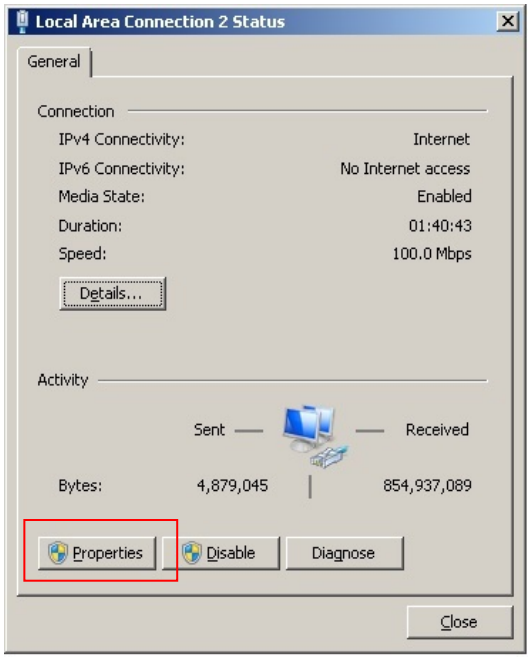


FIGURE 2-7: INTERNET OPTIONS 1/3

- Enable IPv4 in Internet options.

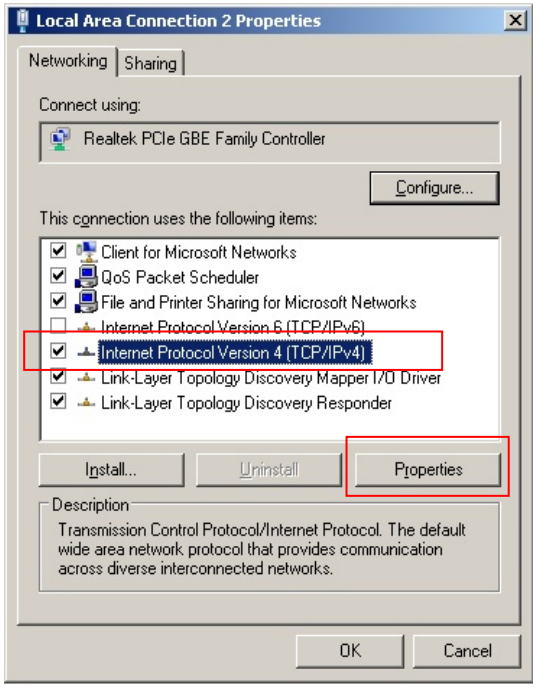


FIGURE 2-8: INTERNET OPTIONS 2/3

- Also, click Properties and set to obtain an IP address and DNS server address automatically.

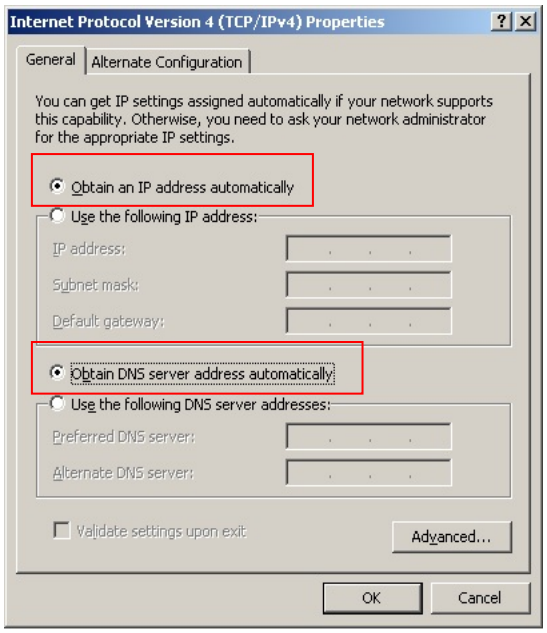

Internet Protocol Version 4 (TCP/IPv4) Properties
General
Alternate Configuration
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

FIGURE 2-9: INTERNET OPTIONS 3/3

- Before starting Internet Explorer, use Illustra Connect to find the default IP address.

2.3.5 Using the illustra Connect Tool to Manage Cameras

In addition to using the IE browser to access your camera, you can alternatively use the provided tool, illustra Connect.

illustra Connect is a management tool designed to manage your network cameras on the LAN. It can:

- help you find multiple network cameras
- set the IP addresses
- show connection status
- manage firmware upgrades

For further information on Illustra Connect, refer to the Illustra Connect User Guide, located on the CD supplied.

2.3.6 Verify connection between PC and IP Camera

- Check whether if the networking available between the unit and the computer by executing ping the default IP address. To do this, simply start a command prompt (Windows: from the Start Menu, select Program. Then select Accessories and choose Command Prompt.)
- At the prompt window, type “Ping x.x.x.x”, where x.x.x.x is the IP address of the camera (the default address of IP camera is 192.168.1.168).

  If the message “**Reply from**…” appears, it means the connection is available.

2.3.7 Viewing Preparation

Images of the unit can be viewed through Microsoft Internet Explorer 8 or above. Before viewing, follow these steps to enable the display.

1. Enable Cookies as instructions below

- In Internet Explorer, click Internet Options on the Tools menu.
- On the Privacy tab, move the settings slider to Low or Accept All Cookies.
- Click OK.

2. When a proxy server is used, click Internet Options on the Tools menus of Internet Explorer, select Connect tab, click LAN button, and set proxy server.
3. Change Security in Internet options as instructions below.

- On Tools menu, click Internet Options.
- Press the Security tab.
- If the camera operates inside of the intranet, click the Intranet icon.
- If the camera operates outside of the intranet, click the Internet icon.
- Click Custom Level. This will open the Security Settings – Internet Zone screen.

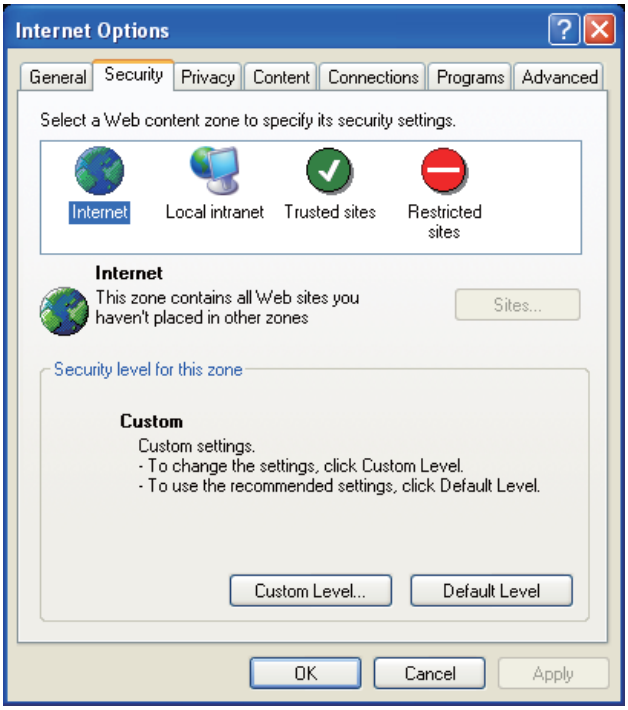


FIGURE 2-10: SECURITY SETTINGS 1/4

- Scroll down to the ActiveX controls and plug-ins radio buttons and set as follows:

【Download signed ActiveX controls】➔ Prompt (recommended)

【Download unsigned ActiveX controls】➔ Prompt

【Initialize and script ActiveX not marked as safe for scripting】➔ Prompt

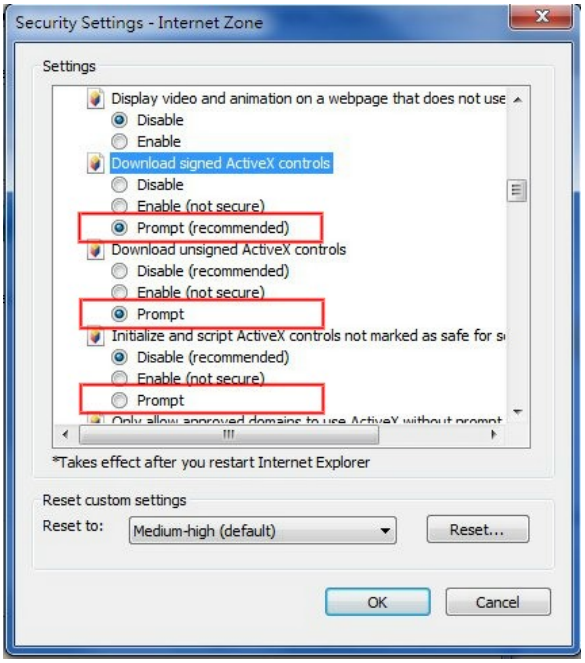


FIGURE 2-11: SECURITY SETTINGS 2/4

【Automatic prompting for ActiveX controls】➔ Enable

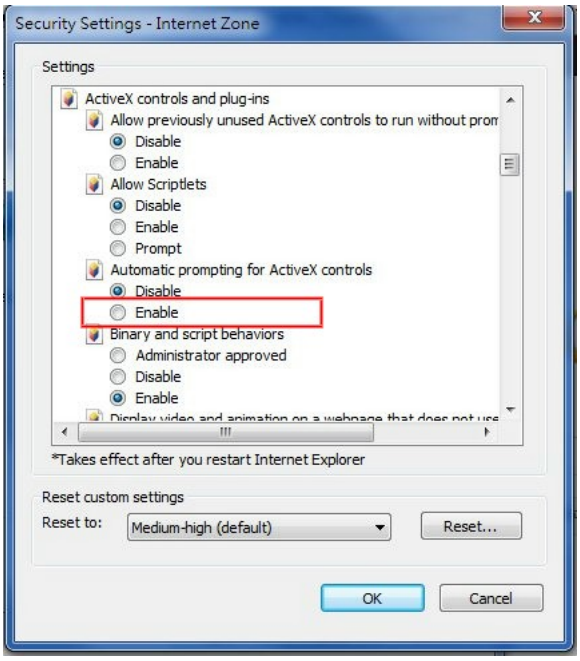


FIGURE 2-12: SECURITY SETTINGS 3/4

【Run ActiveX controls and plug-ins】➔ Enable

【Script ActiveX controls marked safe for scripting*】➔ Enable

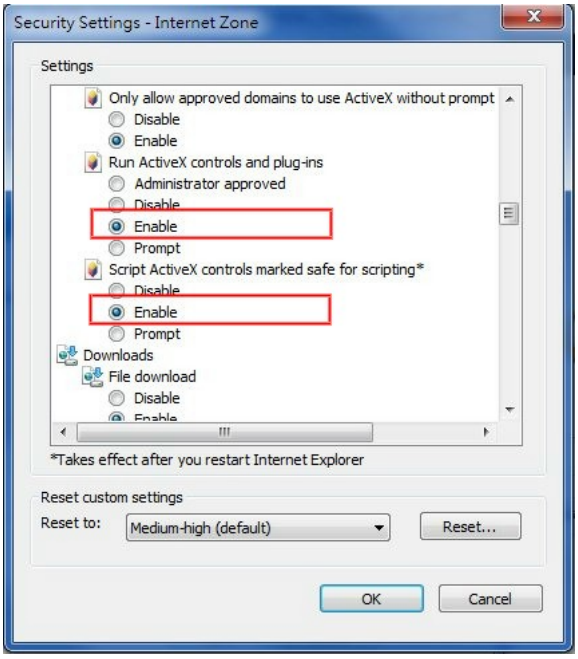


FIGURE 2-13: SECURITY SETTINGS 4/4

- Press OK to save the settings.
- Close all Microsoft Internet Explorer Windows and restart a new window. This will allow the new settings taking effect.

2.3.8 Login Window

1. Type your setting IP address into the browser.
2. A login window should pop up.

FIGURE 2-14: LOGIN WINDOW 1/2

- In the window, please enter the default user name: **admin** and set password/password (confirm) to login window.
- If you are the first time to login window, you can set a favorite password then Save it. The password will be memorized on the system. Please don't forget the password when you login IP website again.

FIGURE 2-15: LOGIN WINDOW 2/2

3. If user name and password are correct, you should be able to see the camera image screen.
4. Further administration information on the unit can be found in 3. Administration and Configuration.

3. Administration and Configuration

3.1 Live View

Live view is the default page to open when accessing the unit's IP address. Live video is displayed directly in the browser window.

Followings are explanations to the tab on the left of the window.

- Subtitle Display: to display information of the unit and the stream on the screen.
- SnapShot*: to take a picture from live view. *Storage folder of the pictures taken can be assigned by clicking the icon right next to the "SnapShot".
- Audio In: MIC. Please enable this function and refer to 3.2.6.1 Audio setting for more information.
- Size 1:1: to set the display screen to 1:1 or fix full screen.
- Stream 1/Stream 2/Stream 3: The unit offers a concurrent triple streams for optimized quality and bandwidth with codecs available in H.264 or M-JPEG.
- / : This icon indicates to stop or start recording by manual.
- : This icon indicates a motion event detected. When turned on and triggered, the alarm message will be displayed on the screen. After clicked this icon, the alarm message will be disappeared. Please refer to 3.2.2 Event Settings for more information.
- Recording message: Please click this icon to store image into a specific folder.
  - : This icon indicates to record image by manual. When started it, the recording message will be displayed on the screen.
  - : This icon indicates to record a motion event into a specific folder. When turned on and triggered, this icon will be displayed and disappeared on the screen after 20 sec if no any motion event. Please refer to 3.2.8 Client-recording setting for more information.
  - : This icon indicates to record a schedule event into a specific folder. When turned on and triggered, this icon will be displayed on the screen. Please refer to 3.2.8 Client-recording setting for more information.
- : This icon indicates to show the folder files.

Caution	• Save the recording file: The storage path is same as snapshot. The default path is C:\Documents and Settings\username\Local Settings\Temp\NetworkCamera\... Or the end user can select a specific folder to save the image. • Recording file format: Avi. The end user can be used VLC or Windows media player to display the file.

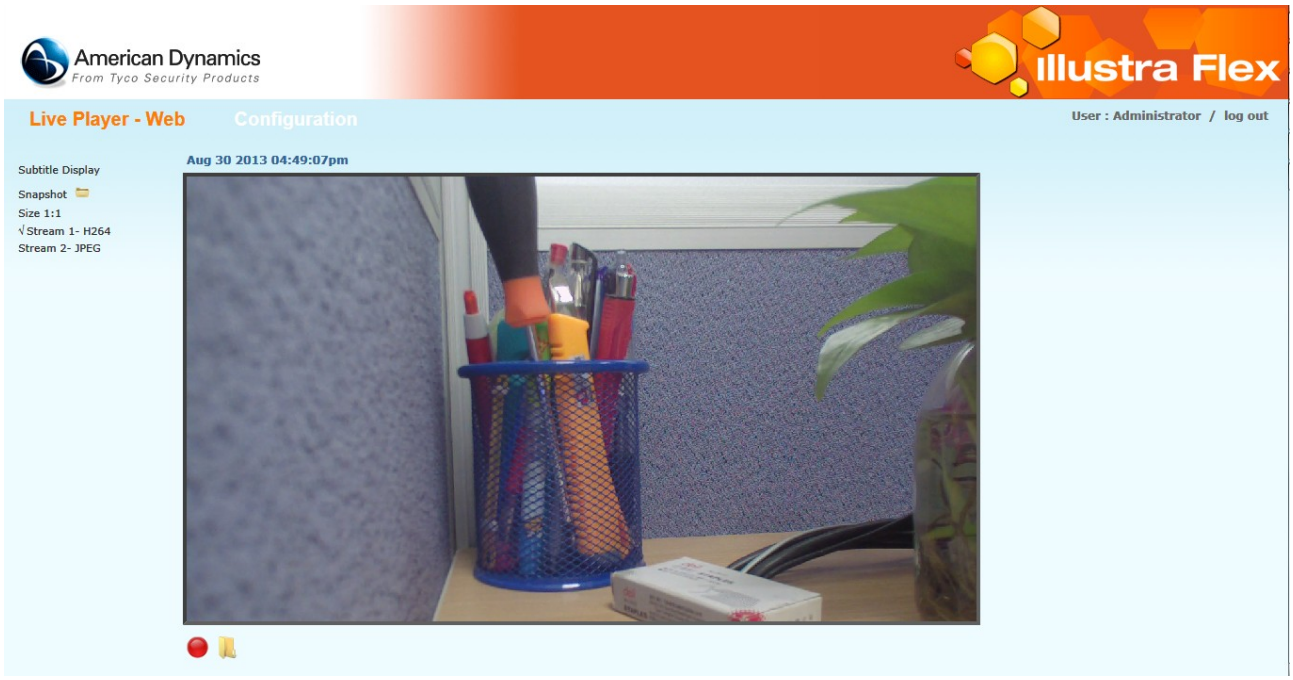


FIGURE 3-1: LIVE VIEW

On the top right corner, you should notice “User: Administrator/log out”. Click “log out” and you will back to the logging window.

3.2 Configuration

When clicking “Configuration”, a window will be popped out for configuring “Image Parameters”, “Event Settings”, “Network Settings”, “WIFI settings”, “Account”, “System”, “Event Log”, and “Information”.

FIGURE 3-2: CONFIGURATION

3.2.1 Image Parameters

FIGURE 3-3: IMAGE PARAMETERS

3.2.1.1 Basic Settings-Exposure

FIGURE 3-4: BASIC SETTINGS – EXPOSURE

Automatic Exposure

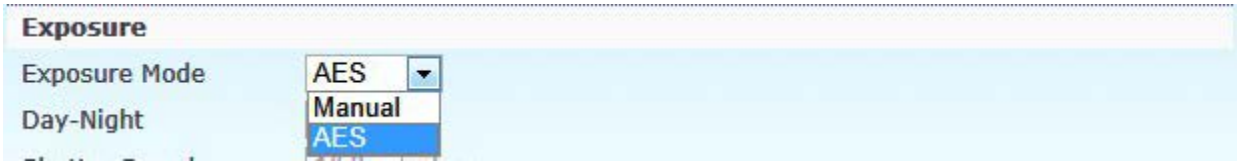


FIGURE 3-5: AUTOMATIC EXPOSURE SETTING

Automatic Exposure controls the light intensity of picture. Users can select Manual or AES (Automatic Electronic Shutter) for the unit depending on applications. When chosen the Manual, Shutter Speed and Manual Gain can be adjusted.

Day-Night

To set DAY/NIGHT function, simply move the cursor to select Auto, Color, or BW mode. If Color selected, the unit is forced to stay in COLOR mode all day. If BW selected, the unit is forced to stay in black/white mode all day.

FIGURE 3-6: DAY-NIGHT SETTING

Shutter Speed*

*Only when Automatic Exposure set to Manual can Shutter Speed be adjusted.

FIGURE 3-7: SHUTTER SPEED SETTING

Set desired Shutter Speed from 1/60(1/50)s to 1/8000s. The unit will adjust the shutter speed according to the amount of outside light. Selecting 1/8000s provides the dark image.

Slow Shutter

Slow Shutter can be enabled if the sensitivity is still not good enough under “High” gain condition at dark. Optimal image level can be maintained by appropriate gain and shutter combination that determined automatically inside the unit system. Slow Shutter can be selected from OFF, 1/30, 1/15, and 1/7.5. As slow shutter activates, the exposure time becomes longer and frame rate becomes lower, and moving objects may result in blurred images.

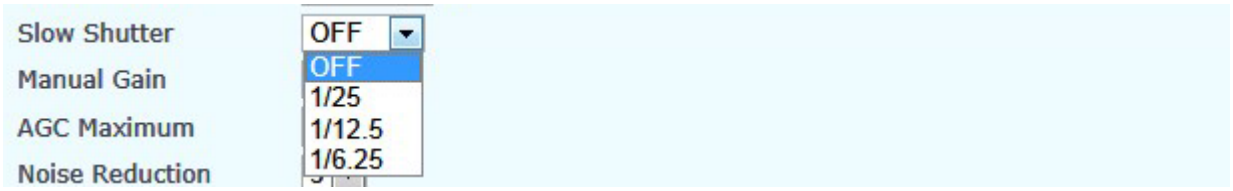


FIGURE 3-8: SLOW SHUTTER SETTING

Manual Gain*

*Only when Automatic Exposure set to Manual can Shutter Speed be adjusted.

FIGURE 3-9: MANUAL GAIN SETTING

The value of Manual Gain can be set from 0 to 30dB as an increment of 6. This function applies to manual lens only. 30dB brightens the image but noise will be larger and 0dB darkens the image but noise will be smaller.

AGC Maximum

As an adaptive system found in many electronic devices, the average output signal level is fed back to adjust the gain to an appropriate level for a range of input signal levels.

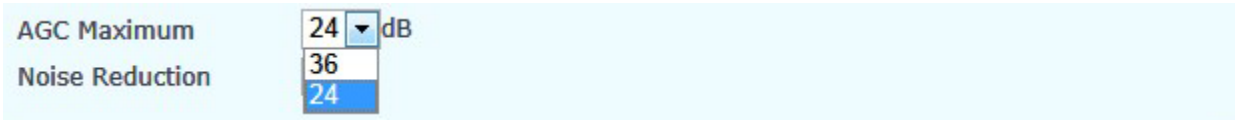


FIGURE 3-10: AGC MAXIMUM SETTING

Noise Reduction

Noise reduction is the process of removing noise from signal. Users can configure the noise reduction related setting 1~6 to reduce noise on the screen. Selecting 6 provides the best image without noise in low light environment.

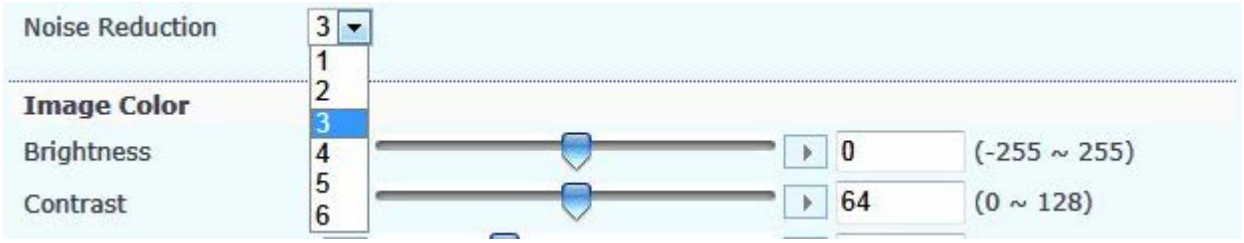


FIGURE 3-11: NOISE REDUCTION SETTING

3.2.1.2 Basic Settings-Image Color

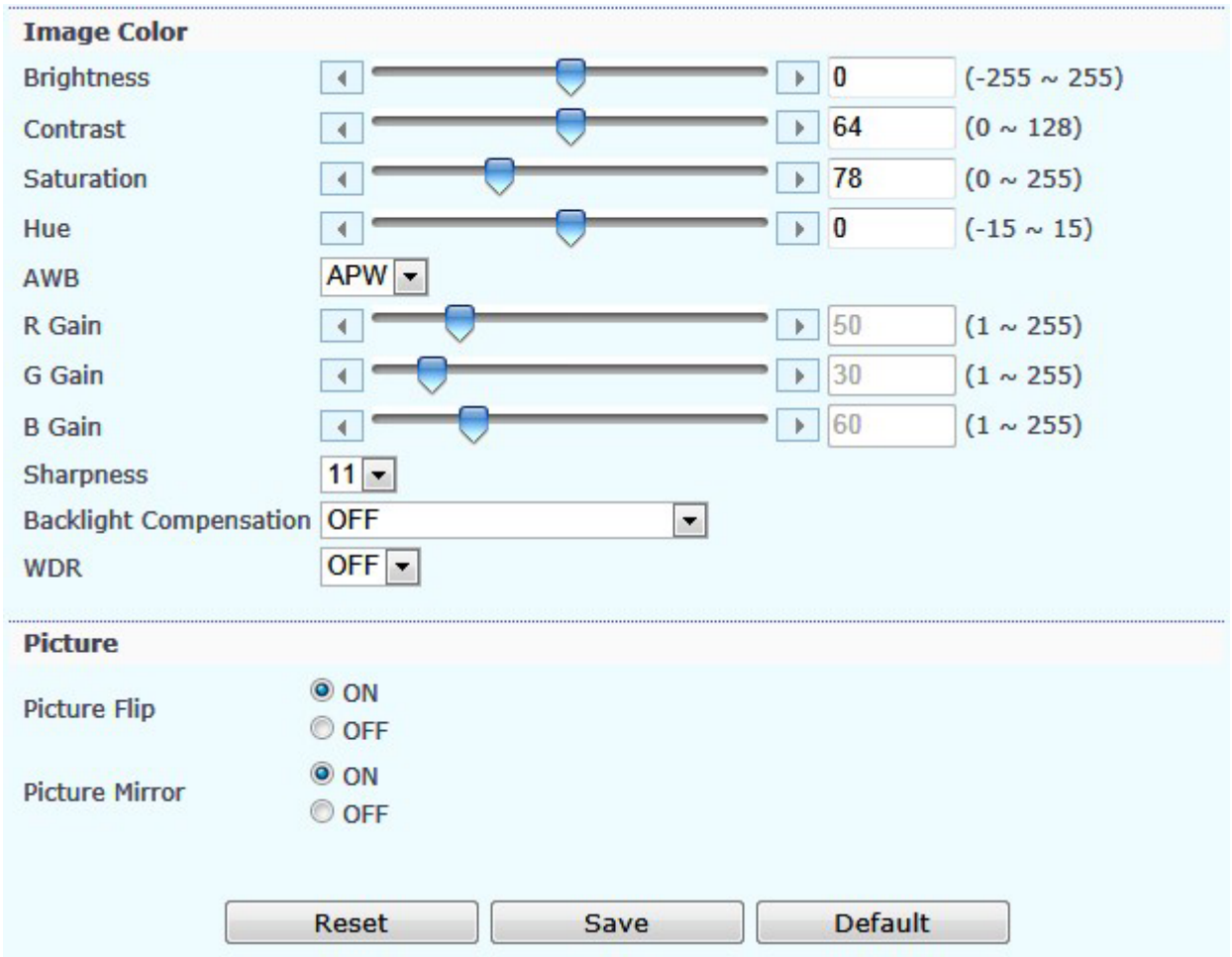


FIGURE 3-12: BASIC SETTING – IMAGE COLOR

Brightness adjustment

Set picture brightness from level -255 to 255. Selecting 255 provides brightest the image.

Contrast

Set picture contrast from level 0 to 128. Selecting 128 provides highest contrast.

Saturation

Saturation describes the difference of a color from the gray of the same lightness. Increasing saturation deepens the colors of your images, making reds redder and blues bluer. Users can adjust picture saturation level from 0 to 255. Decreasing saturation brings the image closer to a grayscale (that is, monochrome or black-and-white) image. Selecting 255 provides highest image saturation.

Hue

Set picture hue from level -15~15. Selecting 15 provides the deep hue.

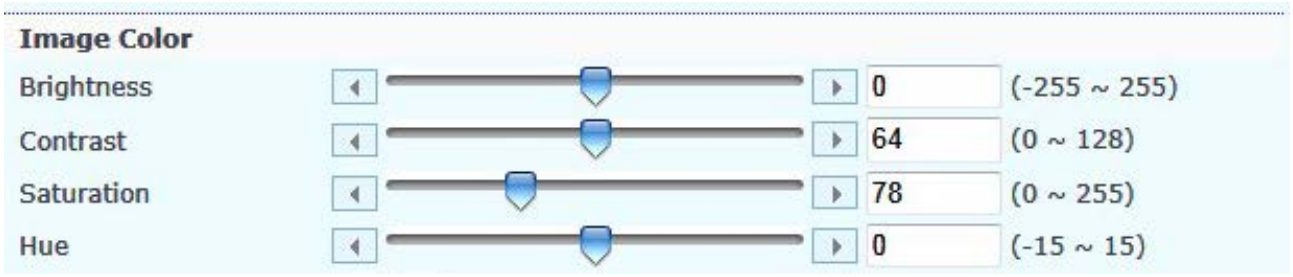


FIGURE 3-13: IMAGE COLOR SETTING

AWB

FIGURE 3-14: AWB SETTING

Set the white balance values to correspond to the environment condition for best color rendition.

“ON”: Corrects the colors of camera video automatically. The color temperature range is 2800°K ~ 8500°K.

“OFF”: Manually adjusted by users. This is useful for some conditions where AWB may be insufficient to perform correctly. You can set the current R/G/B/ color temperature manually.

“APW”: APW is supply for an existed infrared light condition which color performance is better than AWB mode.

Note	When environment is completed and existed infrared light, we suggest the user to select APW mode.

R Gain, G Gain, & B Gain

FIGURE 3-15: R/G/B GAIN SETTING

Set manual gain value of R Gain, G Gain, & B Gain from level 0 to 255.

- The red (R) gain is used to adjust the color red in the viewing image. It allows adjusting red gain manually according to user requirement ranging from level 0 to 255.
- The green (G) gin is used to adjust the color of green in the viewing image. It allows adjusting green gain manually according to user requirement ranging from level to 255.
- The blue (B) gain is used to adjust the color of blue in the viewing image. It allows adjusting blue gain manually according to user requirement ranging from level 0 to 255.

Sharpness

Increasing the sharpness value will sharpen the edges and small feature of viewing images. If the edges appear too smooth or blurred, increase the sharpness; otherwise, decrease the sharpness. Sharpness value can be set from 1 to 15. Selecting 15 provides the sharpest image.

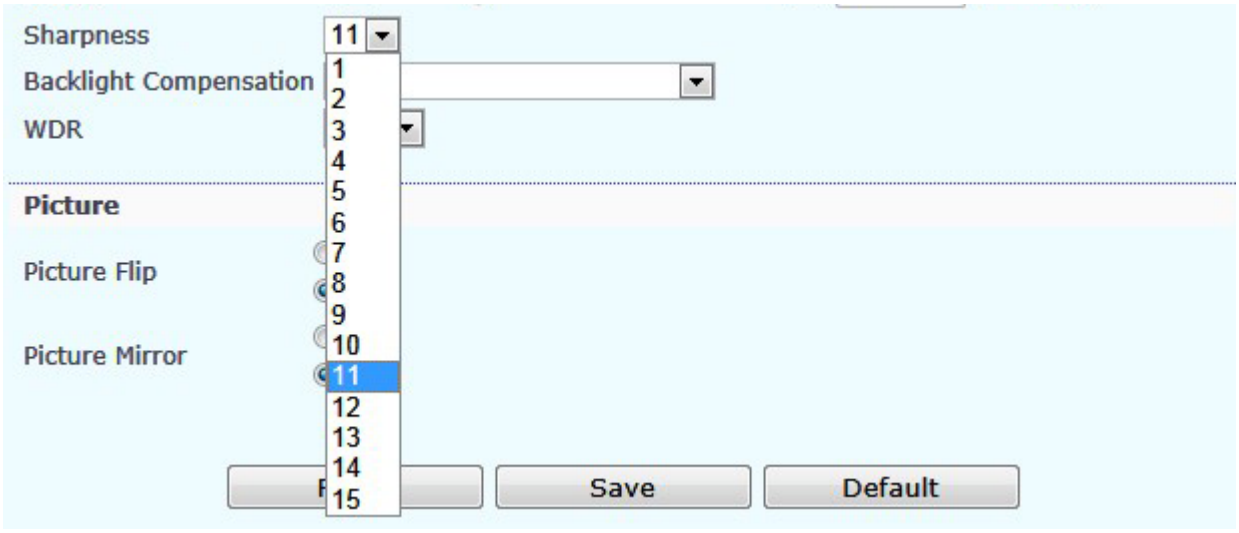


FIGURE 3-16: SHARPNESS SETTING

Backlight Compensation

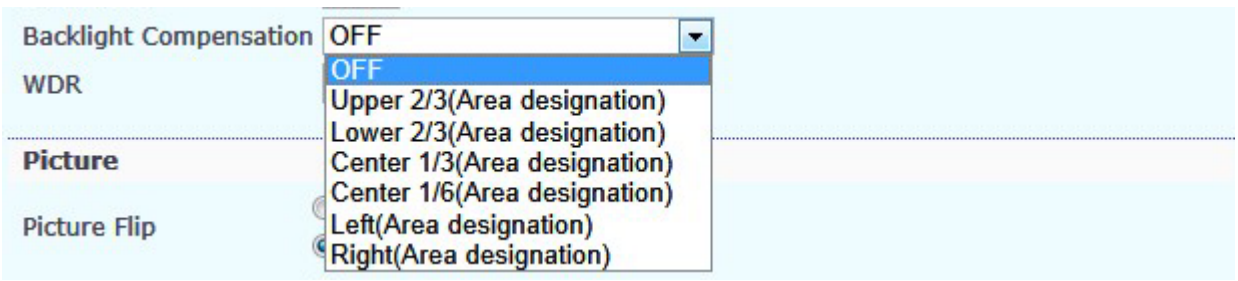


FIGURE 3-17: BACKLIGHT COMPENSATION SETTING

Set an area for Backlight Compensation. Backlight Compensation is a function that achieves the brightness of a selected area to optimal image level. This function is necessary when an auto iris lens tends to close due to an intense light coming from back of object in the area wished to view so that the area is too dark and difficult to see. In this case, users may set the area correspond to the portion wished to see. The area size illustrations are roughly as follows.

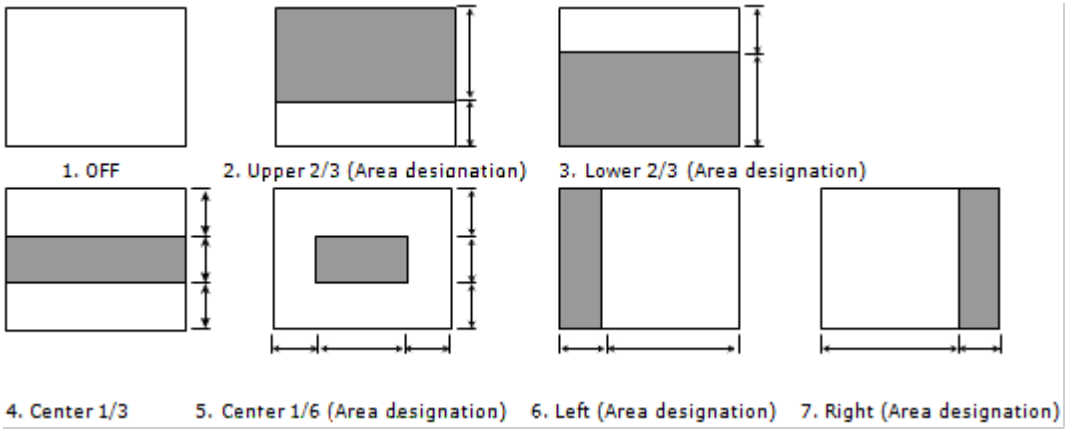

1. OFF
2. Upper 2/3 (Area designation)
3. Lower 2/3 (Area designation)
4. Center 1/3
5. Center 1/6 (Area designation)
6. Left (Area designation)
7. Right (Area designation)

FIGURE 3-18: BACKLIGHT COMPENSATION PICTURE SETTING

WDR

This function is provided clear images even under back light circumstances where intensity of illumination can vary excessively namely when there are both very bright and very dark areas simultaneously in the field of view of the unit. WDR enables capturing and displaying of both bright and dark areas in the same frame in a way that there are details in both areas, i.e. bright areas are not saturated, and dark areas are not too dark.

FIGURE 3-19: WDR SETTING

Picture Flip

Set image to be upside or down. Select ON or OFF to activate or deactivate the flip function.

Picture Mirror

Set image to be left or right. Select ON or OFF to activate or deactivate the mirror function.

FIGURE 3-20: PICTURE FLIP/MIRROR SETTING

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.1.2 Profile

There are up to six profiles to choose from. The one that users are using will be in Current Profile.

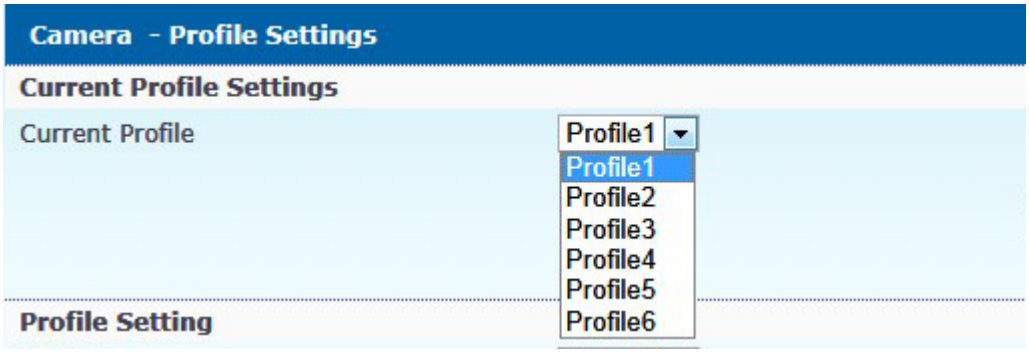


FIGURE 3-21: PROFILE SETTING

In each profile, parameters are all configurable including Image Mode, Resolution, Frame Rate, Bit Rate, Bit Rate Control, and GOP. Be sure to click Save when done.

TABLE 3-1: STREAMS/VIDEO QUALITY BASIS

	Single stream	Double Stream	Triple Stream
Profile 1	720P / H.264	720P / M-JPEG	N/A
Profile 2	720P / M-JPEG	720P / H.264	N/A
Profile 3	720P / H.264	VGA / H.264	VGA / M-JPEG
Profile 4	720P / M-JPEG	VGA / H.264	VGA / M-JPEG
Profile 5	VGA / H.264	VGA / M-JPEG	QVGA / H.264
Profile 6	VGA / H.264	VGA / M-JPEG	QVGA / M-JPEG

Stream 1, Stream 2, and Stream 3 are available for selection for simultaneous triple streams with optimized quality and bandwidth. However, no more than two 720P video can be streamed concurrently. That is to day, 720P video is available for double stream at most with effective either codecs of M-JPEG or H.264. The video signal sent to the Web-Client from the unit has a number of settings that can be edited. The Profiles enable users to configure settings such as Resolution, Frame Rate, and Picture Quality. Since, the unit supports triple streams (for display and storage), they should be configured respectively.

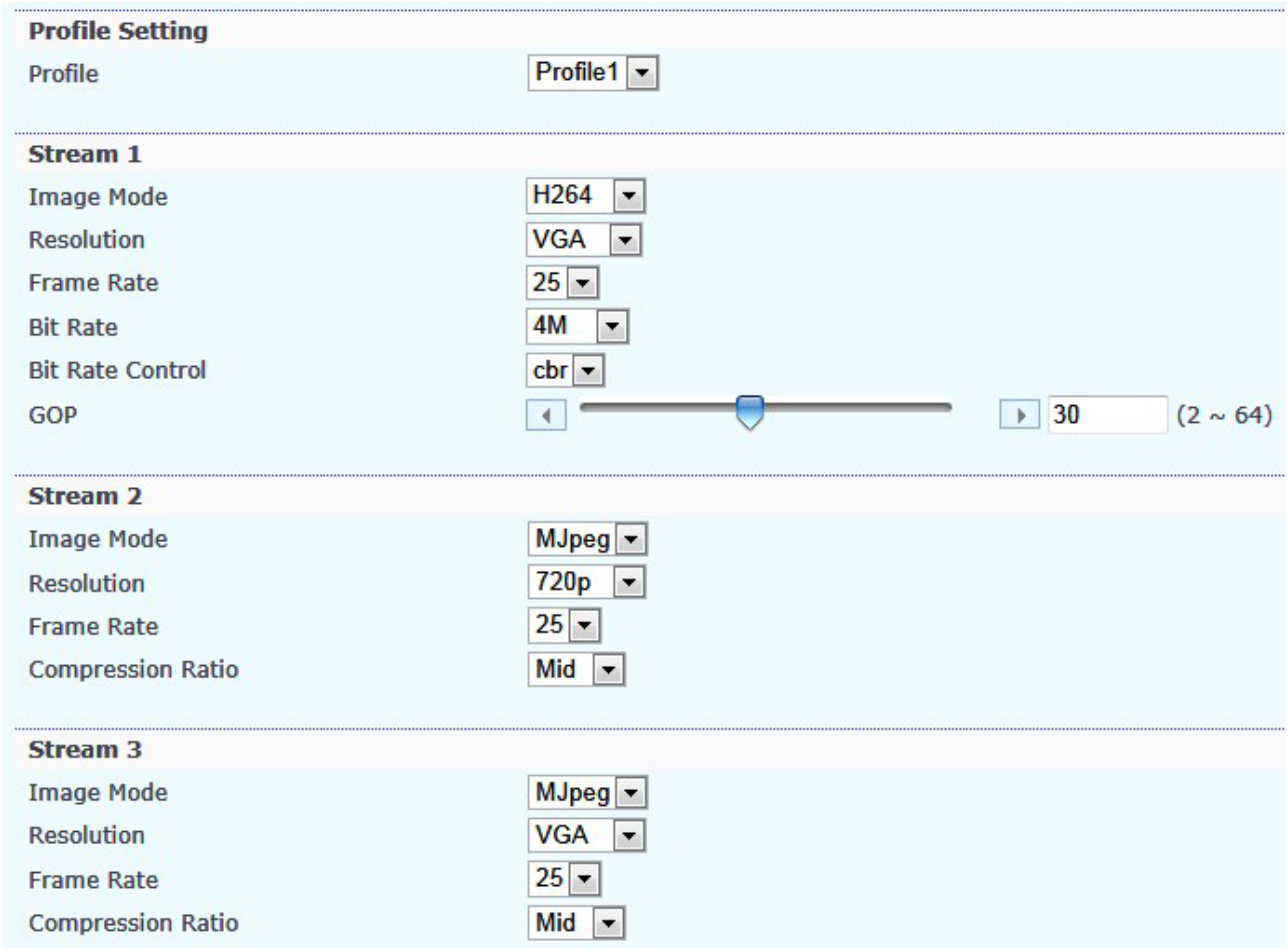


FIGURE 3-22: PROFILE SETTING

TABLE 3-2: STREAM QUALITY SETTINGS

Function	Choice	Remark
Image Mode	M-JPEG/H.264	Set a default compression mode.
Resolution	720P/VGA/ CIF/QVGA	720P is the highest resolution and, QVGA is the lowest resolution.
Frame Rate	PAL:5/10/12/25 NTSC:5/10/15/30	The frame rate is displayed per second. PAL: H.264/M-JPEG: 720P, CIF, VGA, QVGA@25fps NTSC: H.264/M-JPEG: 720P, CIF, VGA, QVGA@30fps
Bit Rate control mode	Variable bit rate/ Constant bit rate	Choose the Bit Rate control selection based on user requirements. When chosen Variable bit rate, max and min bit rate values can be set.
Compression Ratio	Low/Mid/High	Low: this setting produces highest image quality while the file size increases. High: this setting produces lowest image quality while the file size decreases. **Note:** When M-JPEG selected, it will display Compression Ratio as users set according to requirements.
Bit Rate	512K/1M/2M/4M/ 6M/8M	It's optional only when constant bit rate is chosen. Select the desired bit rate among 512K, 1M, 2M, 4M, 6M,and 8M kb/s.
GOP	2-64	Select the GOP (Group of pictures) number from 2 to 64. If the number is bigger, recovery of the lost frames will be more difficult; if the number is smaller, it will increase the bite rate obviously and aggravate the network load. The default value is 30, and GOP will be differed by fps setting.

TABLE 3-3: STREAM/RESOLUTION BASIS

Resolution	Codec	Double stream		Triple stream		
		Primary	Secondary	Primary	Secondary	Tertiary
1280×720(720P)	H.264/M-JPEG	1280×720@ 30fps/25fps	1280×720@ 30fps/25fps	1280×720@ 30fps/25fps	640×480/352×240/320×240@ 30fps/25fps	640×480/352×240/320×240@ 30fps/25fps
640×480(VGA)				640×480@30fps /25fps	1280×720/640×480/352×240/320×240@ 30fps/25fps	640×480/352×240/320×240@ 30fps/25fps
352×240(CIF)				352×240@30fps /25fps	1280×720/640×480/352×240/320×240@ 30fps/25fps	640×480/352×240/320×240@ 30fps/25fps
320×240(QVGA)				320×240@30fps /25fps	1280×720/640×480/352×240/320×240@ 30fps/25fps	640×480/352×240/320×240@ 30fps/25fps

Note Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.1.3 Mask Zone

To enable a mask zone, simply press Enable button “ON” and click “Set Mask Zone” to start mask setting.
Use mouse to drag a mask rectangle on the screen, click “OK” to complete the selection.
Click “Save” to enable the mask setting.

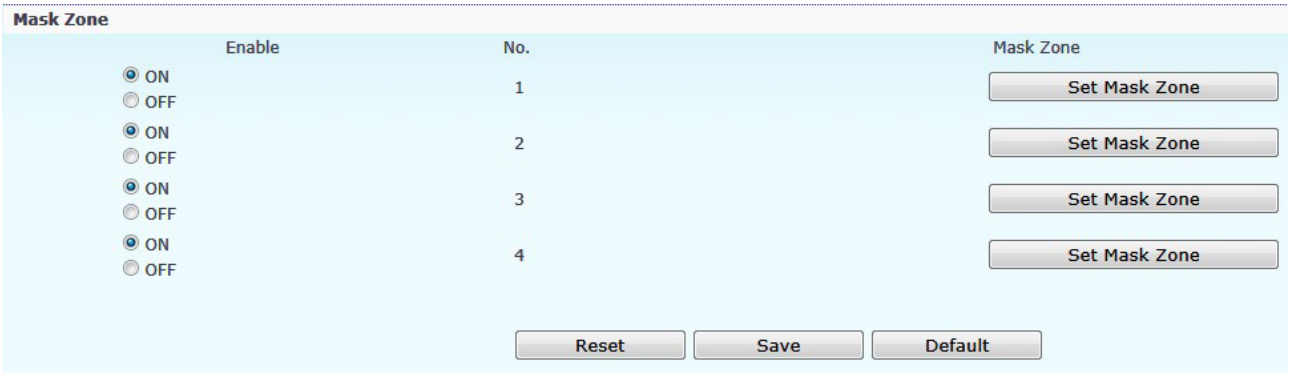


FIGURE 3-23: MASK ZONE SETTING

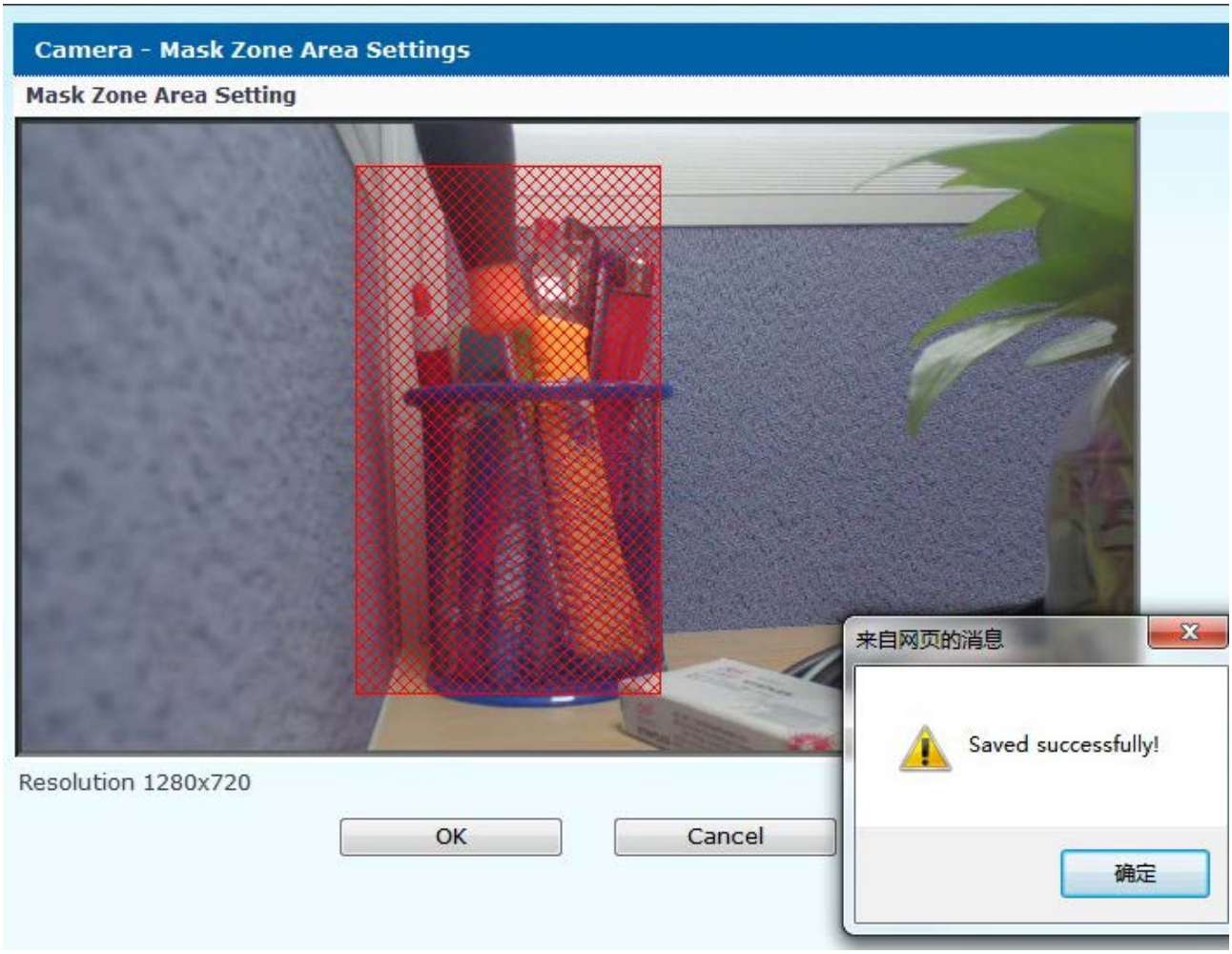


FIGURE 3-24: MASK ZONE EXAMPLE

Note	At most 4 masks can be set on the screen concurrently.

3.2.2 Event Settings

3.2.2.1 Alarm-Motion Detection

This function is designed to trigger a video recording when the unit detects a motion.

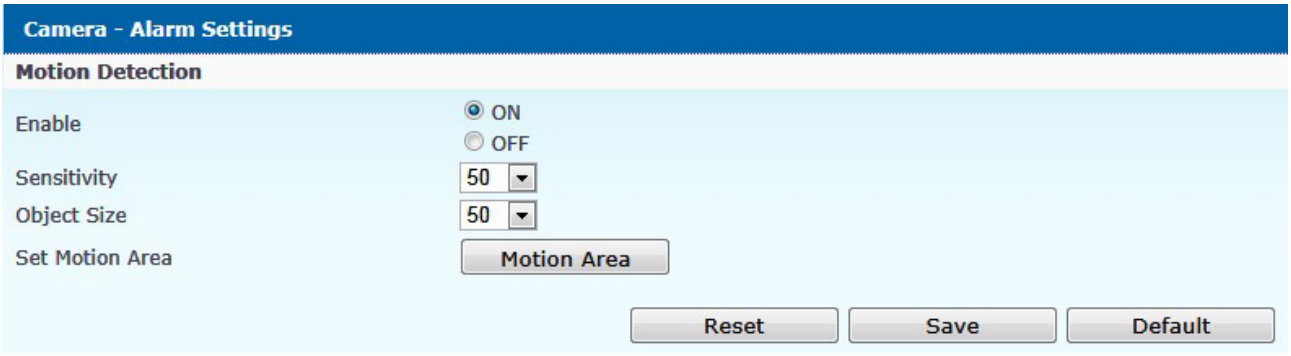


FIGURE 3-25: MOTION DETECTION SETTING

- Function: Set “ON” to turn on motion detection and set motion sensitivity and area.
- Sensitivity: Choose different levels of 1~100 for sensitivity. “100”: Motion is activated with slight changes in brightness or motion. “1”: Motion is activated with big changes in brightness or motion.
- Object Size: Choose different levels of 1~100 for object size. Set the percentage area size for a recognizable object. “100%”: Very large objects trigger motion. “30%”: Small objects trigger motion.
- Set Motion Area: Set the area you want to trigger motion detection. The motion setup screen will be opened for selecting the detection area by clicking/dragging the mouse.

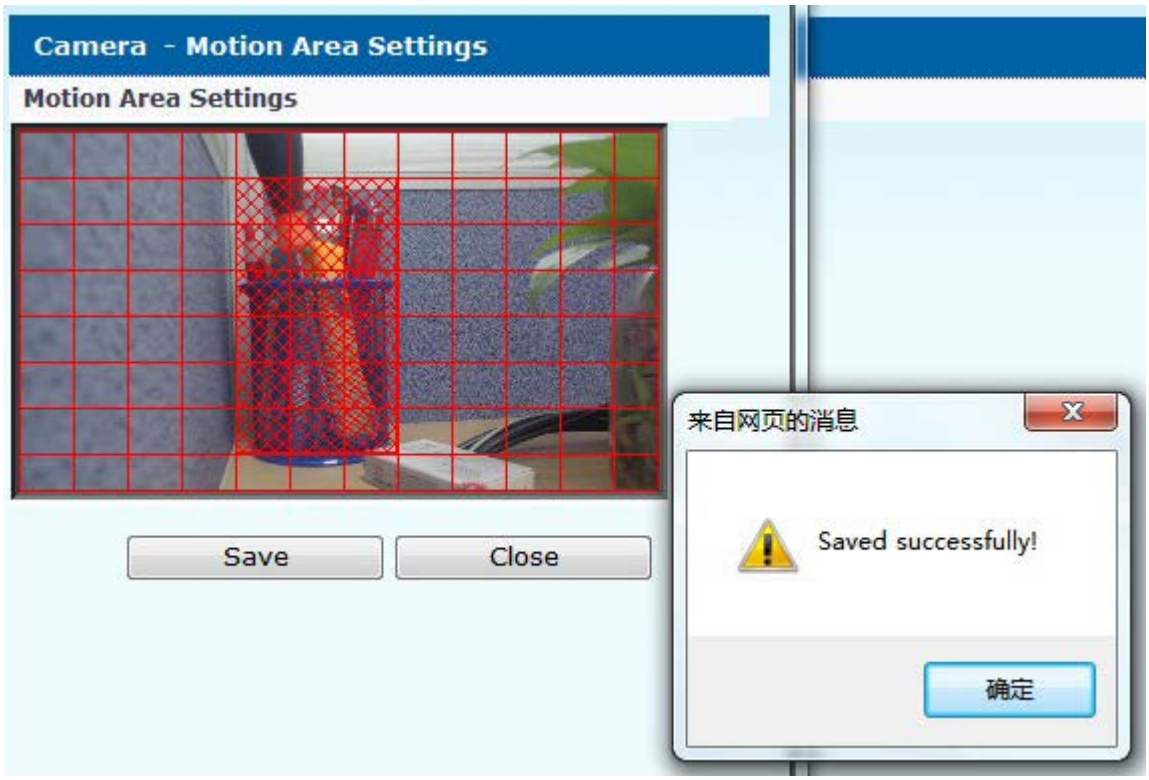


FIGURE 3-26: MOTION AREA SETTING

3.2.2.2 E-mail Recording

Users can receive motion information by setting an E-mail account.

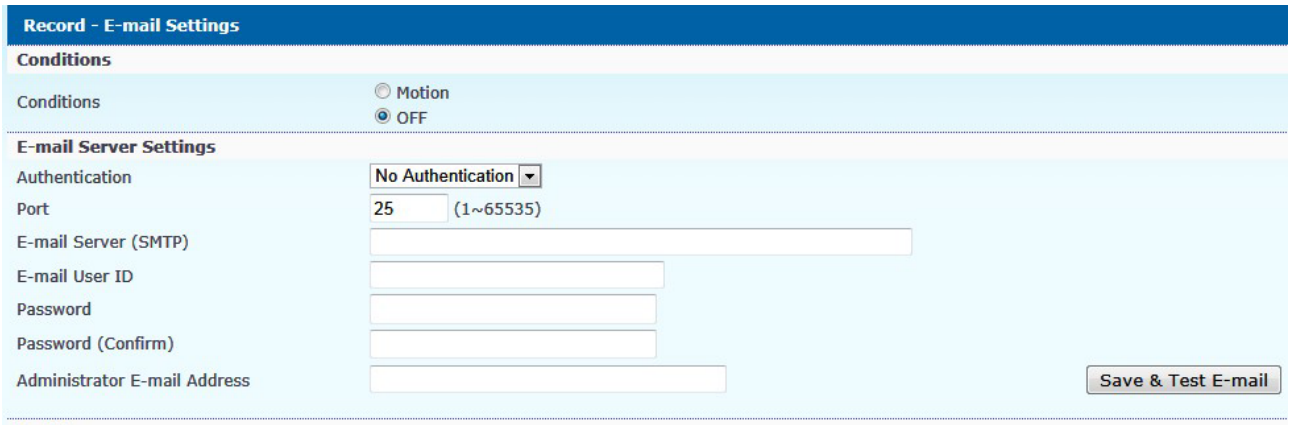


FIGURE 3-27: E-MAIL SETTING

- E-mail Server Settings
  - Authentication: Select an authentication type.
    - ✓ No Authentication: No restriction.
    - ✓ PLAIN: PLAIN is the name of a registered SASL authentication mechanism which serves as a parameter to the AUTH command. The PLAIN authentication mechanism is described in RFC 2595. PLAIN is the least secure of all the SASL authentication mechanisms since the password is sent unencrypted across the network.
    - ✓ LOGIN: The LOGIN mechanism is supported by Microsoft's Outlook Express as well as by some other clients.
    - ✓ TLS_TTLS: TLS is usually implemented on top of any of the Transport Layer protocols encapsulating the application-specific protocols such as HTTP, FTP, SMTP, NNTP and XMPP. The TLS protocol allows client-server applications to communicate across a network in a way designed to prevent eavesdropping and tampering. TLS can also be used to tunnel an entire network stack to create a VPN as is the case with OpenVPN.
  - E-mail Port: set “25” as default or change to dedicated number.
  - E-mail server (SMTP): Input a SMTP server name.
  - E-mail user ID: Input a user name with privilege to access the server.
  - Password: Input the password associated with Login ID.
  - Password(Confirm): Confirm your E-mail password.
  - Administrator E-mail Address: enter your E-mail address.

- Recording by motion: Setup E-mail condition when motion detection is activated.

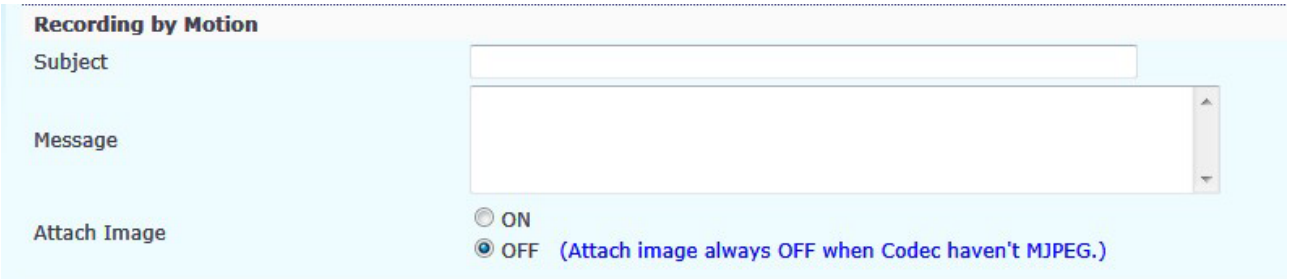


FIGURE 3-28: RECORDING BY MOTION 1/2

- Subject: The subject of the E-mail.
- Message: The contexts of E-mail.
- Attach Image: Select “on” first and choose the image to attach with.

- Mail to: This function is designed to notify multiple users via email when the motion detection function is set.

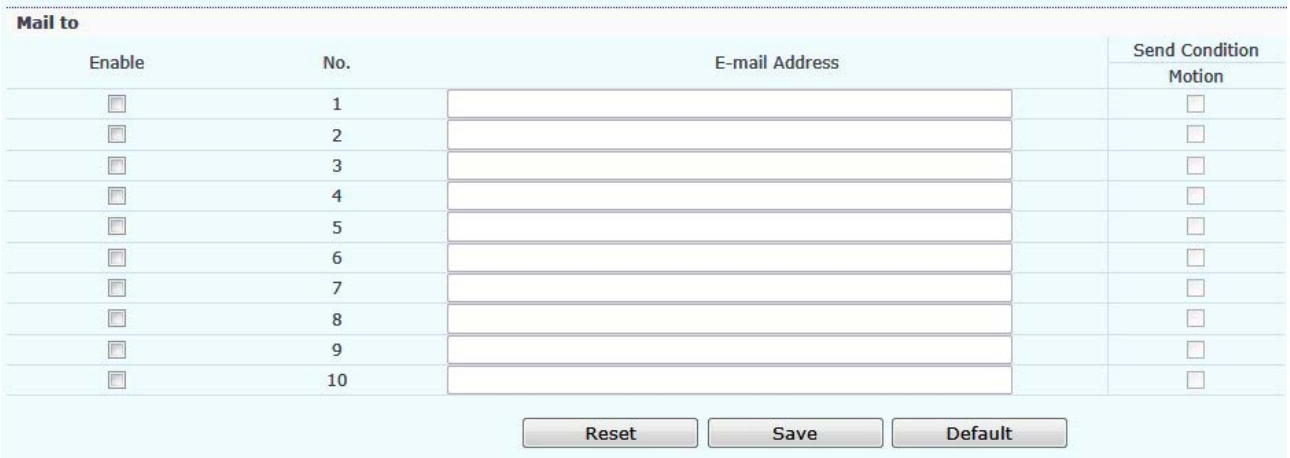


FIGURE 3-29: RECORDING BY MOTION 2/2

- Tick “enable” and input the email address accordingly.
- Select Motion for sending E-mail.

Note Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.3 Network Settings

3.2.3.1 Basic Settings

- Camera Name: Enter a name for the unit or simply use the default name.
- DHCP: The IP address is automatically obtained when “ON” selected; otherwise, select “OFF” to manually setup the network setting.
- IP Address: Manually input IP address when DHCP off selected.
- Subnet Mask: Please use default address: 255.255.255.0. If subnet mask is not properly configured, the unit may not be able to communicate with other devices.
- Default Gateway: Leave blank as default setting. No Default Gateway address required if not used. Ask your network administrator for further information.
- Primary DNS: same as above.
- Secondary DNS: same as above.
- HTTP Port Number: It is recommended to use the default port number. Please contact your network administrator if you need to change it. The legitimate port number other than 80 is ranging from 1025 to 65535.
- UPnP: When set to “ON”, the unit can be detected automatically by any computer in the LAN to skip the installation of Illustra Connect.

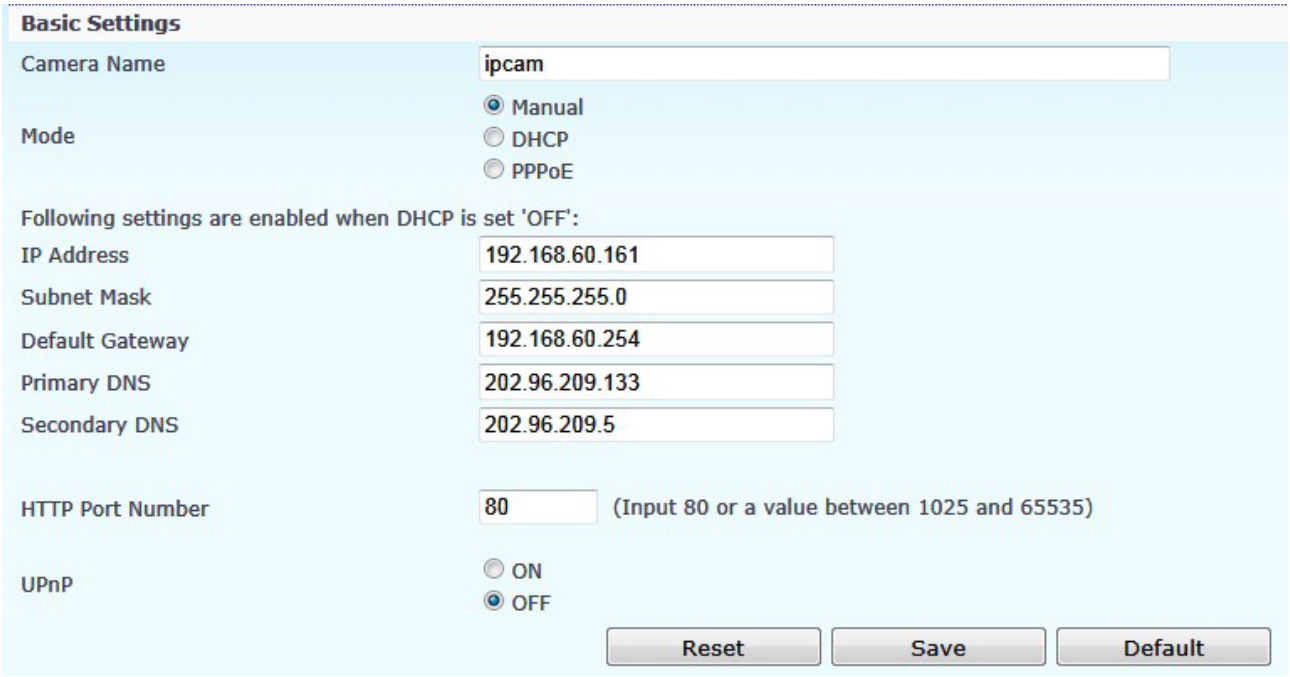


FIGURE 3-30: NETWORK BASIC SETTINGS

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.3.2 RTSP

- Authentication: Enter the Login ID, Password, and RTSP Port number above if “ON” selected.

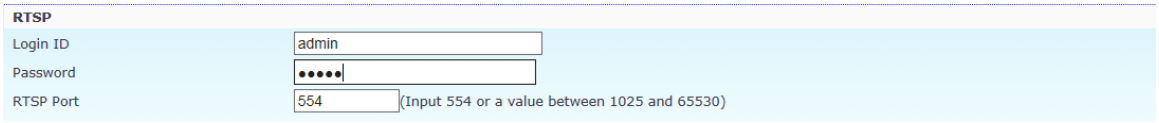


FIGURE 3-31: RTSP SETTINGS

- Transfer Type: IP packet transfer type can be either “Unicast” or “Multicast”. The unit supports IGMP if in “Multicast” mode.
- Multicast Address: Specify multicast address (e.g. of the switch or router) ranging from 224.0.0.23 to 239.255.255.254.

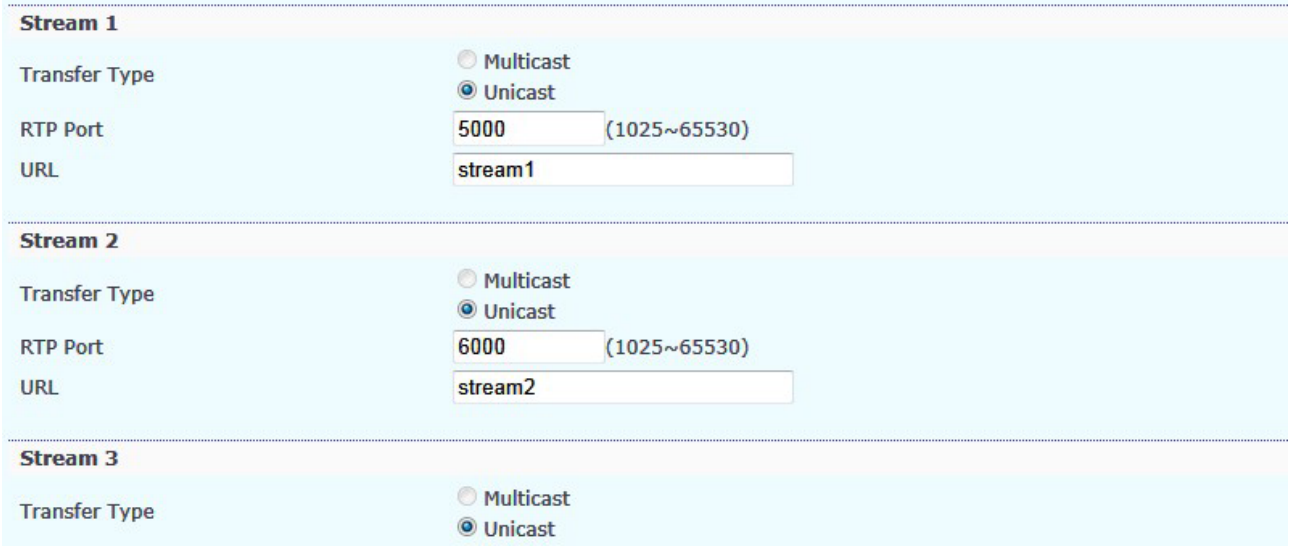


FIGURE 3-32: RTSP STREAM SETTINGS

Please be reminded of clicking “save” button to save all your settings on desired options and values.
Note: RTSP URLs for Stream 1, Stream 2 and Stream3 are: rtsp://(ip address):(RTSP port)/stream1, rtsp://(ip address):(RTSP port)/stream2, rtsp://(ip address): (RTSP port)/stream3, respectively.
For example: rtsp://192.168.1.168:554/stream1

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.3.3 DDNS

This section explains how to configure the dynamic domain name service (DDNS) for network camera.

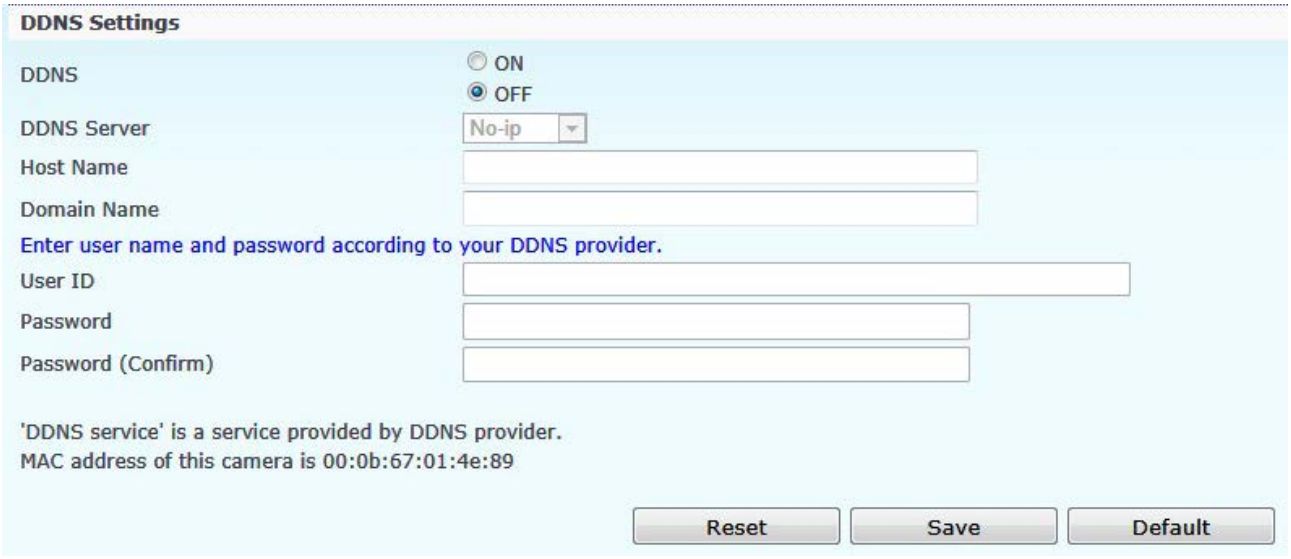


FIGURE 3-33: DDNS SETTINGS

- DDNS: To click “ON” to activate the DDNS function or “OFF” to deactivate DDNS.
- DDNS server: To select DynDNS or NoIP from the drop-down list of the DDNS Servers.
- Host Name & Domain name: To enter host name and domain name.
- User ID: To enter the user ID associated with the DDNS Server.
- Password: To enter the password associated with the User ID.
- Password (Confirm): To re-enter the password associated with the User ID.

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.4 WIFI Settings

Below settings control how this unit act in a wireless network. Users can connect to wireless networks and enable wireless encryptions.

3.2.4.1 Basic settings

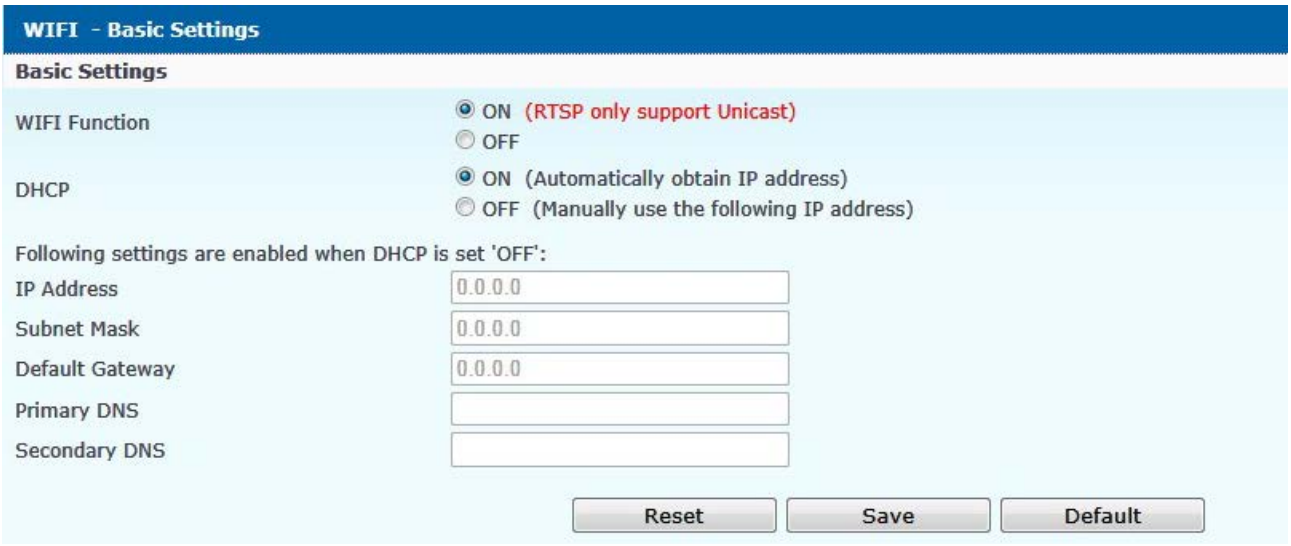


FIGURE 3-34: WIFI BASIC SETTINGS

- WIFI Function: Select “ON” to enable subsequent settings.
- DHCP: The IP address is automatically obtained when “ON” selected; otherwise, select “OFF” to manually setup the network setting.
- IP Address: Manually input IP address when DHCP off selected.
- Subnet Mask: Please use default address: 255.255.255.0. If subnet mask is not properly configured, the unit may not be able to communicate with other devices.
- Default Gateway: Leave blank as default setting. No Default Gateway address required if not used. Ask your network administrator for further information.
- Primary DNS: same as above.
- Secondary DNS: same as above.

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

Caution	Please do not set your IP addresses of LAN and WIFI both in the same subnet in case “unavailable to connect” message showing while networking with default IP address of the unit.

3.2.4.2 WIFI

When “WIFI” enabled, the unit automatically search wireless networks (as below figure) for users to select and join.

- Site search list: Survey the local area for available wireless network. The user should select local area network from the search list.

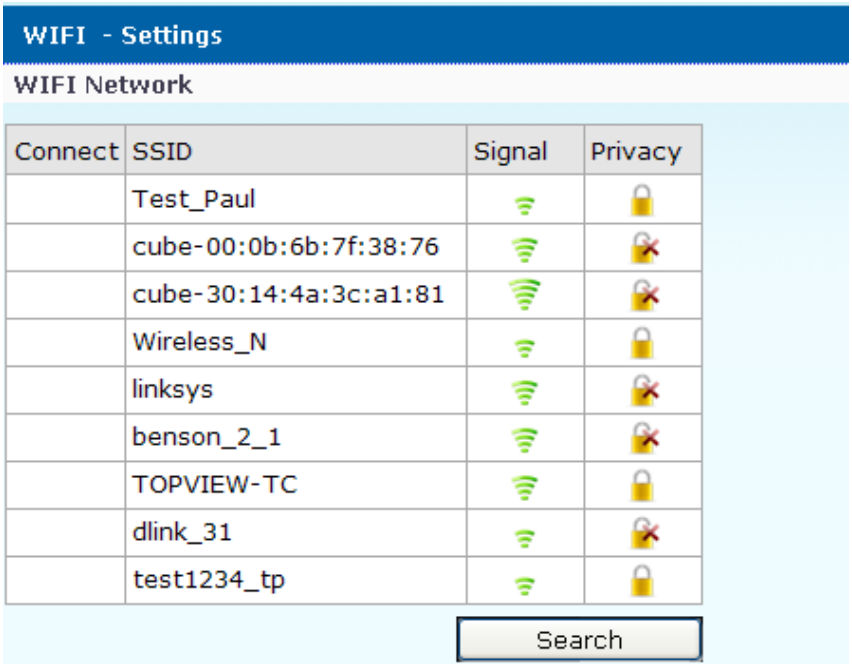


FIGURE 3-35 AVAILABLE WIFI NETWORK DIAGRAM

- WIFI setting
  - Mode: select ad hoc or infrastructure
    - ✓ ad hoc(device to device): Select this when connecting to a computer directly. With this setting specify a wireless channel. A wireless access points (AP) are not used. When set ad hoc mode, the user must to select a specific SSID (cube-xxx) for networking. After WIFI networking, the WIFI IP camera default address is **192.168.1.30**.

Note	With ad hoc mode, you can’t select security of Public, WPA, WPA2, or None.

    - ✓ Infrastructure: Select this when connecting to a computer via an access point (AP) or wireless router. To join the WLAN, the AP and all wireless clients must be configured to use the same SSID.

  - SSID: Service Set Identifier (SSID) is a network name used to be identified the wireless signal emitted from a wireless access point. The SSID listed here should be the one users selected in the above figure. The field space is up to 30 alphanumeric characters, and the name must exactly the same as that used in the wireless access point. Otherwise, no connection will be established.

- Security: This unit supports four wireless security options, None (no data encryption), WPA-Personal, WPA2-Personal and Public. WIFI Protected Access (WPA-Personal/WPA2-personal) and Public offer different levels of security for wireless communication by encryption to protect data transmitted over a wireless network. The WPA2/WPA is more secure than Public because WPA2/WPA use dynamic key encryption. It is recommended to enable the highest level of encryption supported by the network infrastructure.

- Encryption:
  - ✓ WEP - Wired Equivalent Privacy (WEP) is a basic encryption method which transmits network broadcast messages using radio signals. WEP provides a minimum level of security that can deter minor intrusions.
  - ✓ TKIP - Temporal Key Integrity Protocol (TKIP) is an encryption protocol included as part of the IEEE 802.11i standard for wireless LANs (WLANs). It was designed to provide more secure encryptions than the notoriously weak Wired Equivalent Privacy (WEP), the original WLAN security protocol. TKIP is the encryption method used in Wi-Fi Protected Access (WPA), which replaced WEP in WLAN products.
  - ✓ AES - Advanced Encryption Standard (AES) offers a higher level of security and is approved for government use, but requires a hardware upgrade for implementation. As organizations replace older wireless equipment, AES is expected to become the accepted encryption standard for WLAN security.

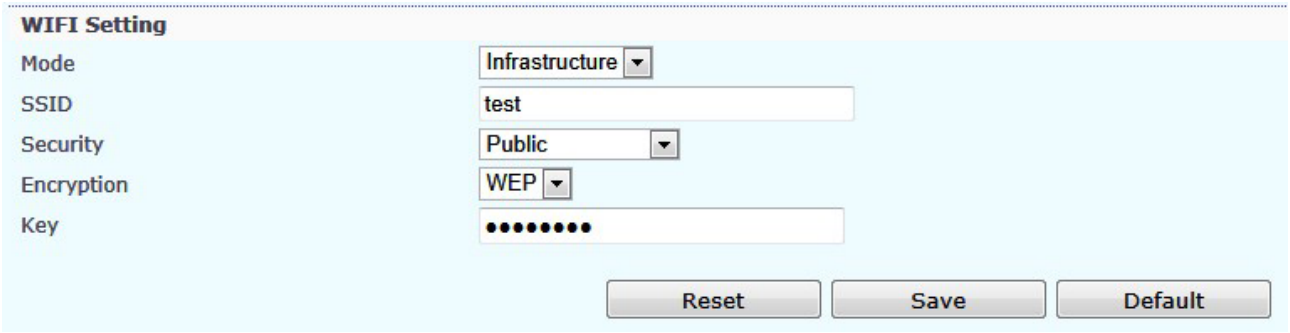


FIGURE 3-36: WIFI SECURITY SETTING

When “Public” is selected in “Security”, “WEP” will be displayed in “Encryption”, and “Key” shows automatically.

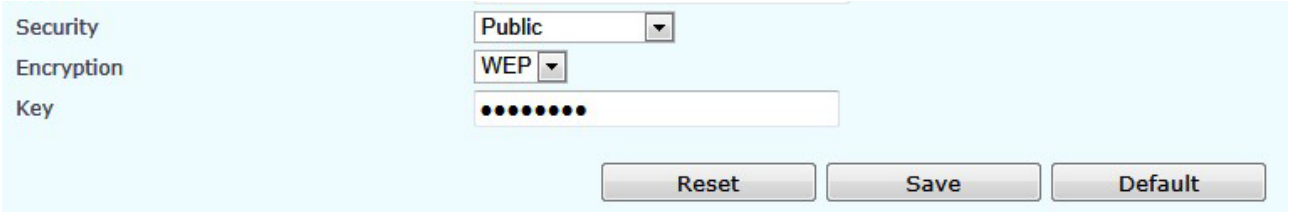


FIGURE 3-37: WIFI SECURITY SETTING

When “WPA-Personal” is selected in “Security”, “TKIP” or “AES” will be displayed in “Encryption”, and “Key” shows automatically. The default is TKIP.

FIGURE 3-38: WIFI SECURITY SETTING

When “WPA2-Personal” is selected in “Security”, “TKIP” or “AES” will be displayed in “Encryption”, and “Key” shows automatically. The default is TKIP.

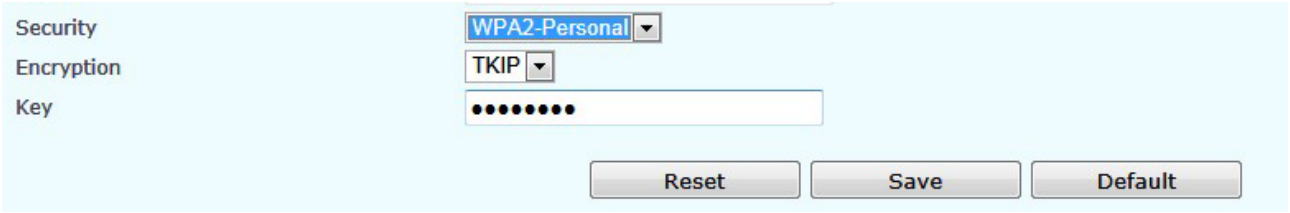


FIGURE 3-39: WIFI SECURITY SETTING

Note	● The Encryption key must be the same value used by the wireless access point (AP). ● Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

● WPS – Settings

Wi-Fi Protected Setup (WPS) is a computing standard that attempts to allow easy establishment of a secure wireless home network. WPS supports two connection ways. One is PIN Code and the other one is PBC(Push Button correction) .

- PIN code:
  1. Remember IP camera pin code(99956042) and simultaneously Key-in 8 digitals pin code to AP device
  2. Click “Start PIN code” between AP and IP camera
  3. Then WPS will be connecting.
- Button to set:
  1. Push “WPS” button on AP device and simultaneously push “default” button on IP camera at 2sec
  2. Or Push “WPS” button on AP device and push ”Start PBC” button on IP camera by UI configuration
  3. Then WPS will be connecting.

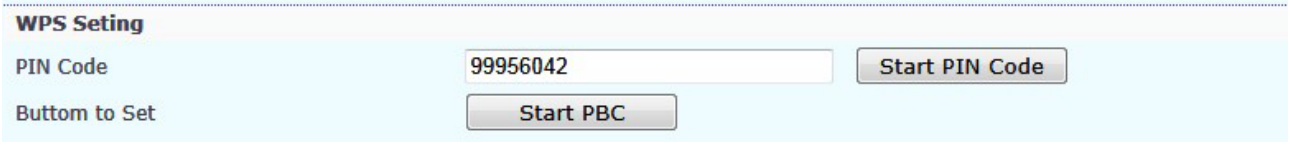


FIGURE 3-40: WIFI SECURITY SETTING

3.2.5 Account

3.2.5.1 Administrator Information

Press the item-Administrator Function on setting menu. Unit privilege control can be defined right here.
The default setting for system Admin ID and password is:

- User ID: **admin**
- Password: admin
- Language: English

Administrators can enter their own Admin ID, password, Language preference (English or Simplified Chinese) here.

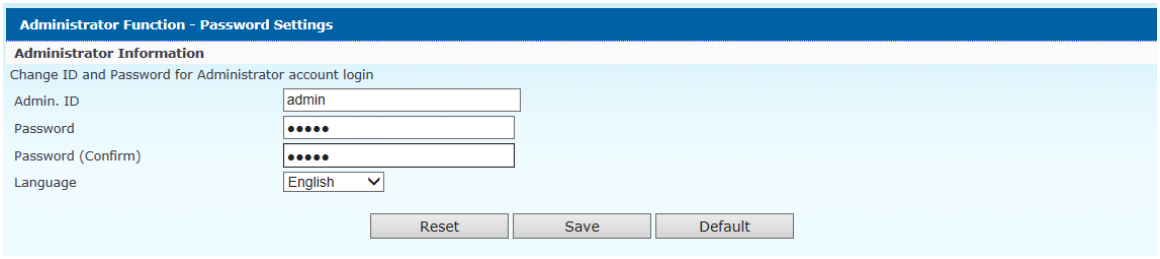


FIGURE 3-41: ADMINISTRATOR INFORMATION

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.5.2 User Information

Other than administrator, guests can access to the unit under authorization from system administrator. However, 5 users are allowed to view the live picture at most. No operation will be granted without authorization. The default guest's login name and password are "**user1**" (user+1~5) and "**0000**". To change the setting, simply follow steps below.

- Enter a guest's User ID in the User ID field
- Enter a password associated with a guest's User ID
- Re-enter the password again to confirm it
- Choose language: English and Simplified Chinese

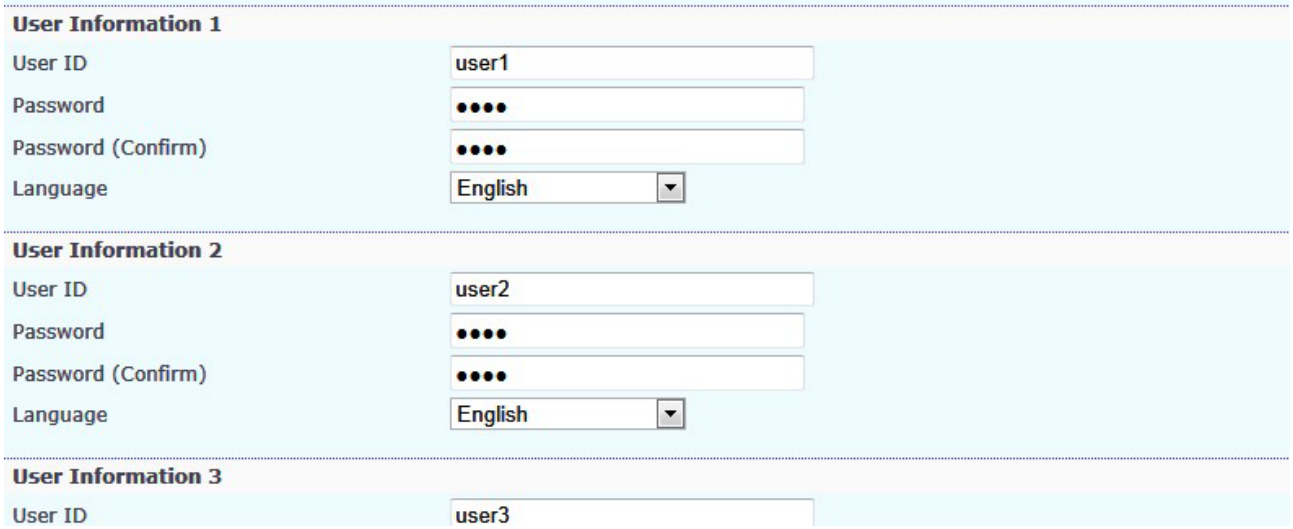


FIGURE 3-42: USER INFORMATION

Caution	The login ID and Password is supported less than 16 characters and input valid value only from '0' to '9', 'a' to 'z', 'A' to 'Z', '.','-','+','_'and '@'.

Note	Please click "Save" button to save your settings. Users can click "Reset" to return last setting and also click "Default" to set all the data and options back to defaults.

3.2.6 System

3.2.6.1 Audio

- Function: Select "ON" to enable receiving audio from a microphone connected to the unit.
- Audio Input Level: Select among High, Mid, and Low for sound input level.

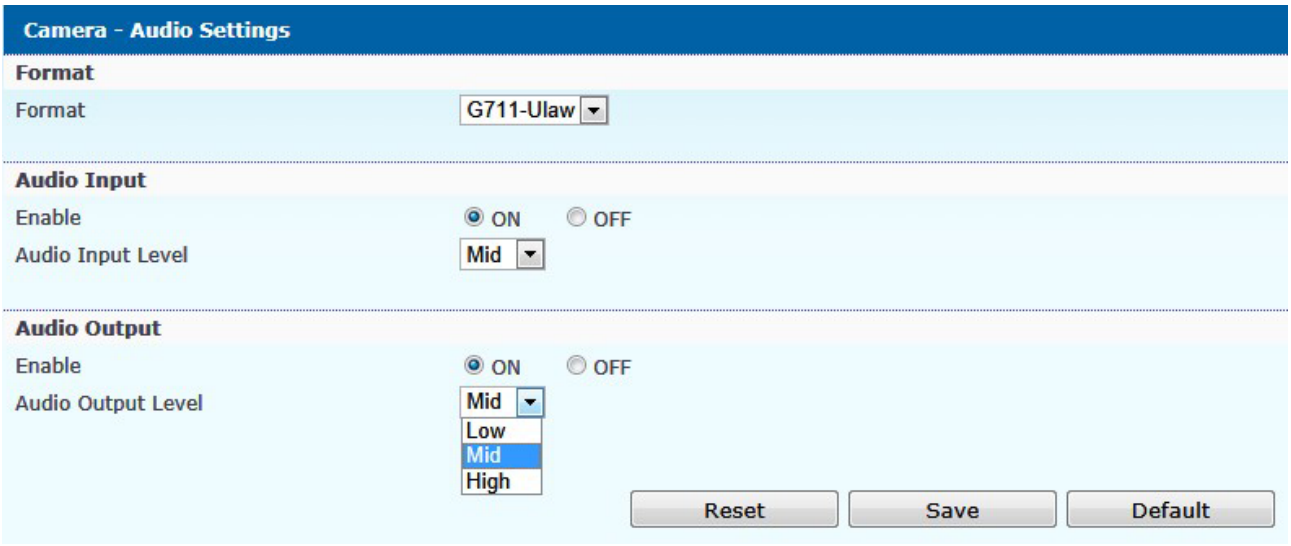


FIGURE 3-43: AUDIO INPUT

3.2.6.2 Date/Time

- Synchronization Mode: Users can choose 3 different type of Synchronization Mode here as needed.

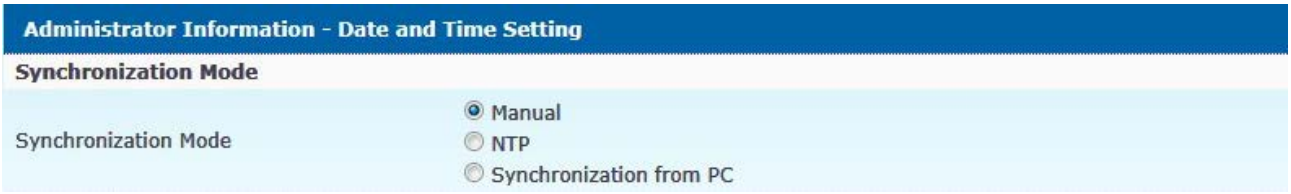


FIGURE 3-44: SYNCHRONIZATION MODE

- Date & Time manual setting: To set up the unit's date and time.

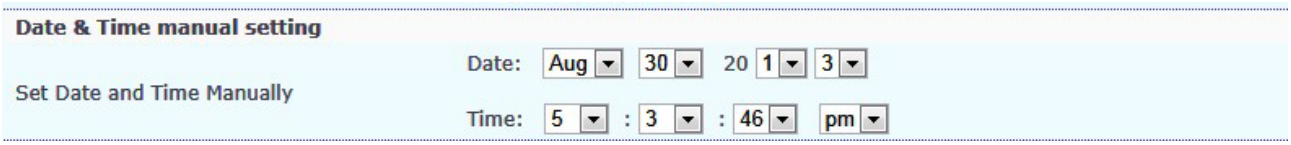


FIGURE 3-45: DATE & TIME MANUAL SETTING

- NTP Server
  - Time Zone: To select the time zone where the unit is located.
  - NTP Server: To state the address of NTP server to synchronize date and time with the unit when If "NTP" is selected in the Synchronization Mode.
  - Time Adjustment Period: To select the interval to calibrate the time of the unit.
  - Save &Test: To save and test NTP server settings.

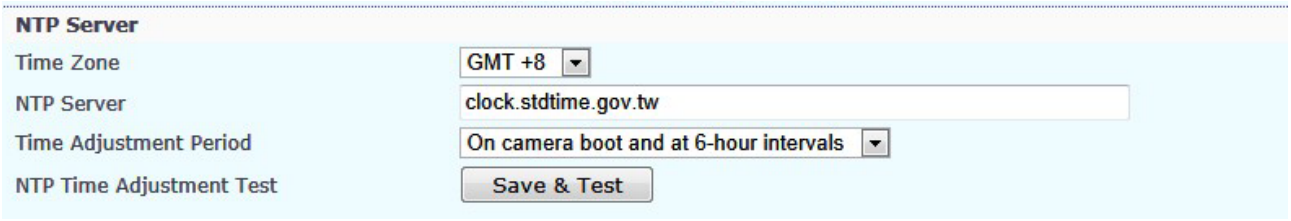


FIGURE 3-46: NTP SERVER

- Daylight saving: To activate the daylight-saving function if in a daylight saving time zone (effective in NTP mode only).

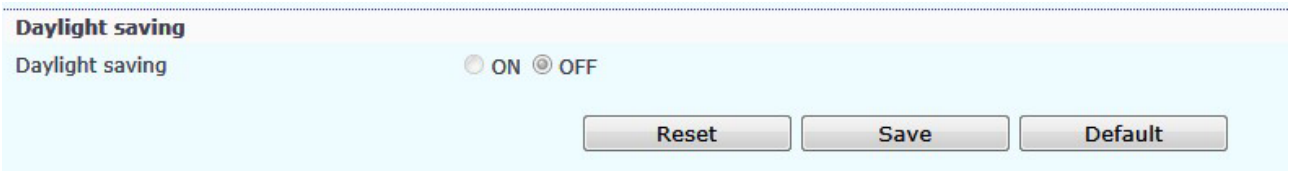


FIGURE 3-47: DAYLIGHT SAVING

Note	Please click “Save” button to save your settings. Users can click “Reset” to return last setting and also click “Default” to set all the data and options back to defaults.

3.2.6.3 Update

Users can update system firmware if an update file is available. It is the customer's responsibility to update firmware. All camera motions will shut down during firmware update. Close any other screens before starting a firmware update. Never disconnect power and LAN cable during the firmware update process, or an update failure will occur and maintenance will be required. Rebooting the unit after firmware update may take approximately 3 minutes. After finished FW update, please reboot your computer as well.

Caution	We suggest the user to use LAN cable for the firmware update as the wireless is not very stable platform.

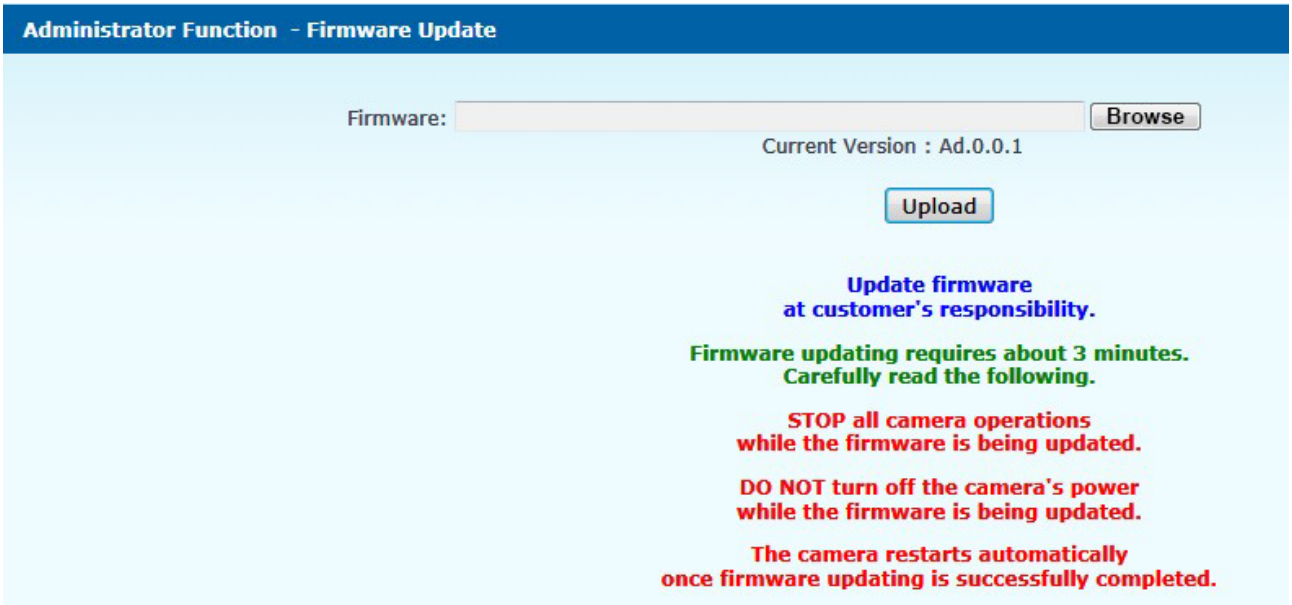

Administrator Function - Firmware Update
Firmware:
Browse
Current Version : Ad.0.0.1
Upload
Update firmware
at customer's responsibility.
Firmware updating requires about 3 minutes.
Carefully read the following.
STOP all camera operations
while the firmware is being updated.
DO NOT turn off the camera's power
while the firmware is being updated.
The camera restarts automatically
once firmware updating is successfully completed.

FIGURE 3-48: FIRMWARE UPDATE

3.2.6.4 Configuration

- Import Configuration Settings: To upload configuration setting from the computer to the unit.

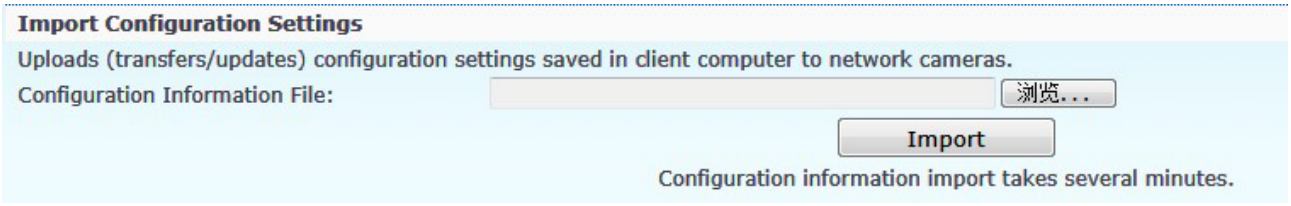

Import Configuration Settings
Uploads (transfers/updates) configuration settings saved in client computer to network cameras.
Configuration Information File:
浏览...
Import
Configuration information import takes several minutes.

FIGURE 3-49: IMPORT CONFIGURATION SETTINGS

- Export Configuration Settings: To export configuration settings of the unit to the computer.

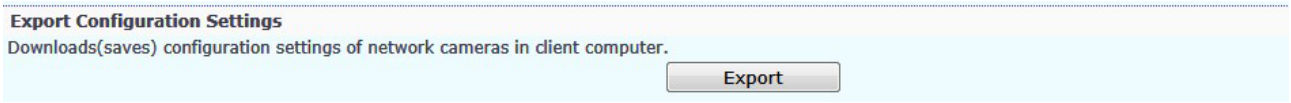

Export Configuration Settings
Downloads(saves) configuration settings of network cameras in client computer.
Export

FIGURE 3-50: EXPORT CONFIGURATION SETTINGS

- Set to Factory Default: To reset all configuration settings into factory default.

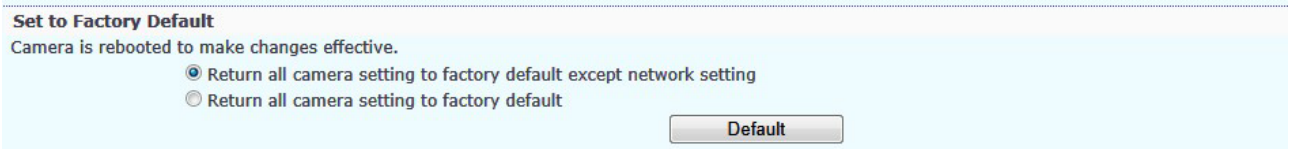

Set to Factory Default
Camera is rebooted to make changes effective.
Return all camera setting to factory default except network setting
Return all camera setting to factory default
Default

FIGURE 3-51: SET TO FACTORY DEFAULT

- Network Camera Reboot: To reboot the unit.

FIGURE 3-52: NETWORK CAMERA REBOOT

3.2.7 Event Log

Simply click Event Log on the setting menu, and click the buttons for administrations such as to display the desired logbooks or to delete all logs.

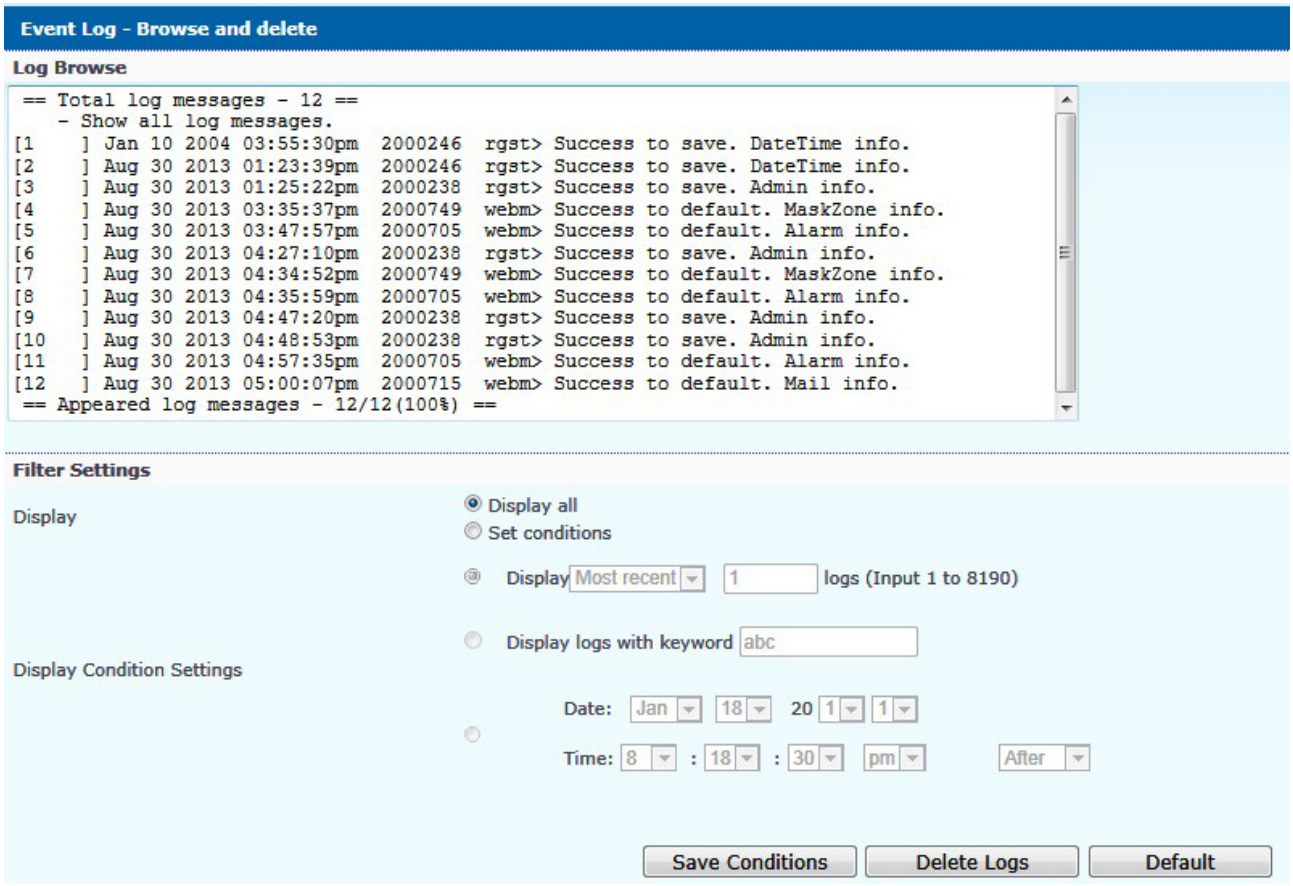

Event Log - Browse and delete
Log Browse
== Total log messages - 12 ==
- Show all log messages.
[1] Jan 10 2004 03:55:30pm 2000246 rgst> Success to save. DateTime info.
[2] Aug 30 2013 01:23:39pm 2000246 rgst> Success to save. DateTime info.
[3] Aug 30 2013 01:25:22pm 2000238 rgst> Success to save. Admin info.
[4] Aug 30 2013 03:35:37pm 2000749 webm> Success to default. MaskZone info.
[5] Aug 30 2013 03:47:57pm 2000705 webm> Success to default. Alarm info.
[6] Aug 30 2013 04:27:10pm 2000238 rgst> Success to save. Admin info.
[7] Aug 30 2013 04:34:52pm 2000749 webm> Success to default. MaskZone info.
[8] Aug 30 2013 04:35:59pm 2000705 webm> Success to default. Alarm info.
[9] Aug 30 2013 04:47:20pm 2000238 rgst> Success to save. Admin info.
[10] Aug 30 2013 04:48:53pm 2000238 rgst> Success to save. Admin info.
[11] Aug 30 2013 04:57:35pm 2000705 webm> Success to default. Alarm info.
[12] Aug 30 2013 05:00:07pm 2000715 webm> Success to default. Mail info.
== Appeared log messages - 12/12(100%) ==
Filter Settings
Display
Display all
Set conditions
Display Most recent 1 logs (Input 1 to 8190)
Display logs with keyword abc
Display Condition Settings
Date: Jan 18 20 1 1
Time: 8 : 18 : 30 pm After
Save Conditions
Delete Logs
Default

FIGURE 3-53: EVENT LOG

3.2.8 Client

3.2.8.1 Record

This function is to define the way to record video once a motion/schedule event is detected by the unit.

- Motion Record

Select “ON” or “OFF” to use this function. When camera detected a motion event, the image will be automatically saved into a specific field. If you enabled motion record, please also turned on event setting of motion detection. For more information, please refer to 3.2.2 event setting.

FIGURE 3-54: CLIENT-MOTION RECORD

- Schedule Record

Select “ON” or “OFF” to use this function.

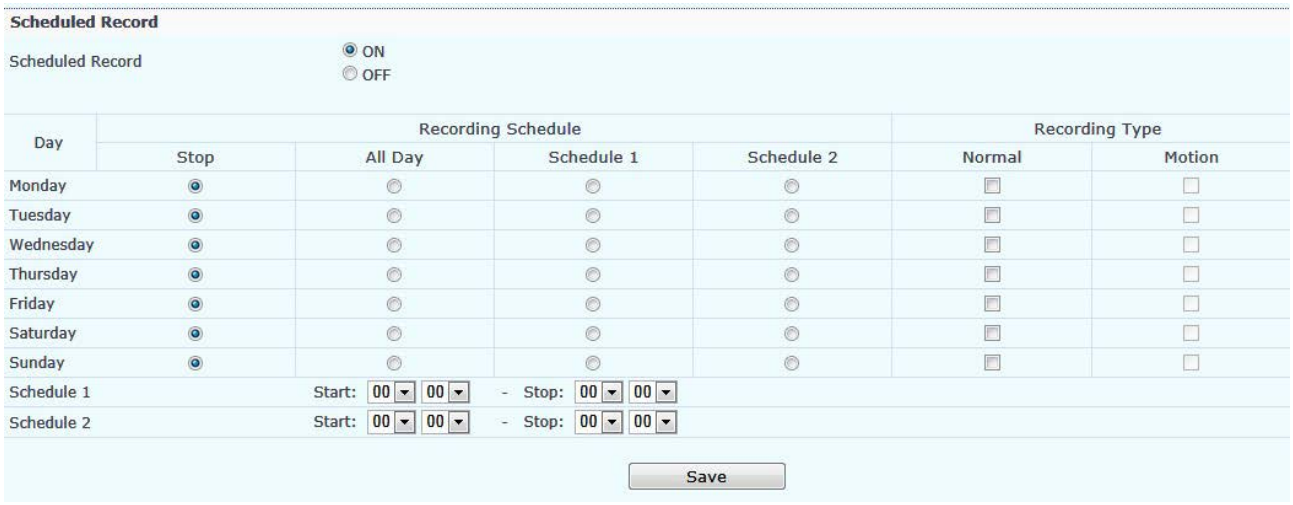


FIGURE 3-55: CLIENT-SCHEDULE RECORD

- Determine the recording condition: Stop, All Day, Schedule 1, or Schedule 2 from scheduled recording table during 24/7. Stop: stop recording. All day: 24hr recording. Schedule 1 or Schedule 2: the user can set the recording time from 00:00 to 23:59.
- Recording type: Select either way (Normal or Motion). Normal: the end user can set a period of time to record the video. Motion: when motion event is detected during your setting schedule, the image will be recorded.

Caution	• Recording priority: Motion → Normal. When detected motion event, the normal recording will be stopped operating. • The video file will be different when chosen motion or normal. • Please keep your HD space around 10G. Otherwise if your HD space is below 5G, the older recording file will be automatically deleted and always kept the new one.

Note	Please click “Save” button to save your settings.

3.2.9 Information

Simply click Information on the setting menu, FW version, MAC address, and WIFI Mac Address will be displayed.

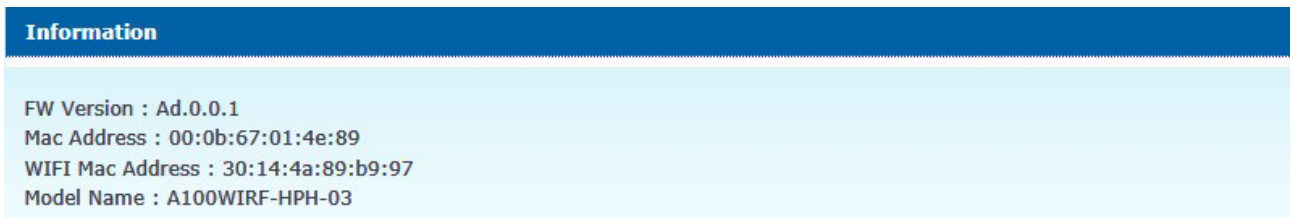


FIGURE 3-56: INFORMATION

Appendix: Specification of 1MP Wireless Cube Series

Model Type	**Mega Wireless Cube IR Camera**	
Model No.	**ADCi600F-W012 / ADCi600F-W012n**	
Signal System	NTSC	PAL
Warranty	1 year	
Image System		
Image Sensor	1/4" OV9715	
Sensor Type	CMOS	
Optical System		
Lens Mount	M12	
Focal Length	Fixed 3.6mm	
F No	F2.4	
Angel Of View	66°(Diagonal), 58°(Horizontal), 35°(Vertical)	
Electric		
Digital Noise Reduction	3D	
Minimum Illumination	F=2.0, CL: 0.8 lux@50 IRE, IR LED ON: 0 lux	
S/N Ratio	50dB (AGC off)	
Gain Control	Off/On, Selectable	
White Balance	Off/ On/ APW(2800K~8500K)	
Electric Shutter	1/30~1/8000 sec	1/25~1/8000sec
Audio In/Out	Audio In	
Network Specification		
Video Compress	H.264/M-JPEG	
Video Streaming	Triple Streaming	
Frame Rate	720P(1280 x 720) @30fps	720P(1280 x 720) @25fps
Resolution	720P(1280 x 720), VGA(640 x 480), QVGA(320 x 240), CIF(352 x 240)	
Network Protocols	IPv4, HTTP, TCP, RTSP/RTCP/RTP, ICMP, UDP, IGMP, DNS, DHCP, ARP, NTP, UPnP, SMTP	
Wireless	802.11 b/g/n	
Slow Shutter	Yes	
WDR	Digital WDR	
Back Light Compensation	Off/ On (6 Area Selectable)	
Audio Format	G.711-Alaw and G.711-Ulaw	
Privacy Zone	Yes (4 zone)	
Motion Detection	Yes (1 area)	
Security Access	Multiple Privilege Control (LAN) WEP, WPA, WPA2, WPS (Wireless)	
Users	1 Administrator, 5 Viewers	
Application	SDK 2.0	
ONVIF	PASS ONVIF Compliance tool V12.06	
Web Browsing Requirements	Microsoft Internet explorer 8.0 or above	
Mechanism		
Dimensions	89mm (H) x 80.7mm (W) x 250.2mm (L)	
Weight	137g	
Connectors	Power in: DC jack Network: RJ45 connector	
IR		
IR Distance	8M	
IR LED	8pcs Red LED	
IR Wavelength	850nm	

Power Supply	
Power Requirement	DC 5V
Power Consumption	4W Max
Environment	
Operating Temperature	-10ºC ~ 40ºC
Operating Humidity	0% to 90%, non-condensing
Storage Temperature	-20ºC ~ 60ºC
Storage Humidity	0% to 90%, non-condensing
Safety Regulation	
FCC	Class A
CE Regulation	Class A

Note: Product specifications and pictures are subject to change without notice.